**PIONEER**
*The Art of Entertainment*

# Service Manual

ORDER NO.
RRV1048

## MULTI CD DOUBLE DECK AMPLIFIER
# XD-J125M
## CD DOUBLE DECK AMPLIFIER
# XD-J120

- **Refer to the service manual ARP2650 for XD−J115M/HE and XD−J110/HE.**

**THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).**

| Type | Model | | Power Requirement | The voltage can be converted by the following method. |
|---|---|---|---|---|
| | XD−J125M | XD−J120 | | |
| HE | ○ | ○ | AC220−230V | AC240V, ∗ |
| HB∗∗ | — | ○ | AC240V | AC230−240V, ∗ |
| HEWZIW | ○ | ○ | AC220−230V | AC240V, ∗ |

∗: Alter the wiring of the Power-supply block at the primary winding of Power transformer referring to the "Line Voltage Selection" described in Service Manual.
∗∗: XD−J125M/HB model is not on sale.

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O−DFN DEC. 1993 Printed in Japan

# 1. CONTRAST OF MISCELLANEOUS PARTS

*NOTES :*

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

## ■ FOR XD−J125M

XD−J125M/HE, HB, HEWZIW and XD−J115M/HE have the same construction except for the following :

| Mark | Symbol & Description | Part No. | | | | Remarks |
|---|---|---|---|---|---|---|
| | | XD−J115M /HE | XD−J125M /HE | XD−J125M /HB | XD−J125M /HEWZIW | |
| | AF assy | AWZ4645 | AWZ4645 | AWZ4645 | AWZ4646 *1 | |
| | VOLUME assy | AWZ4653 | AWZ7263 | AWZ7263 | AWZ7264 | |
| | SW assy | AWK1746 | .................. | .................. | .................. | |
| NSP | HEADPHONE assy | AWZ4666 | AWZ4666 | AWZ4666 | AWZ4667 *1 | |
| NSP | TRANS CONNECT assy | AWZ4672 | AWZ4672 | AWZ4672 | AWZ4673 *1 | |
| | SUB TRANS assy | AWZ4678 | AWZ4678 | AWZ4681 *2 | AWZ4679 *1 | |
| NSP | CD PLAYER unit | PD−XD115M/E | PD−XD125M/E | PD−XD125M/E | PD−XD125M/E | |
| ⚠ | AC power cord | ADG1127 | ADG1127 | ADG1144 | ADG1127 | |
| | Button (POWER) | AAD2370 | AAD7050 | AAD7050 | AAD7050 | |
| | Cursor button | AAD2377 | AAD7010 | AAD7010 | AAD7010 | |
| | Button (DECK) | AAD2379 | AAD7011 | AAD7011 | AAD7011 | |
| | Decorative plate (DECK) | AAK2398 | AAK7023 | AAK7023 | AAK7023 | |
| | Decorative plate (AMP) | AAK2441 | AAK7025 | AAK7025 | AAK7025 | |
| | Screw (GND) | .................. | .................. | .................. | ABA1047 | |
| NSP | Name plate | AAL2022 | AAL7016 | AAL7015 | AAL7017 | |
| | Cassette door L (PLS) | AAN1365 | AAN7003 | AAN7003 | AAN7003 | |
| | Cassette door R (PLS) | AAN1376 | AAN7009 | AAN7009 | AAN7009 | |
| | Strain relief | .................. | .................. | AEC−882 | .................. | |
| | Front panel | AMB2094 | AMB7019 | AMB7019 | AMB7019 | |
| | Rear panel | ANC2008 | ANC7016 | ANC7017 | ANC7016 | |
| | Magazine assy | PXA1507 | PXA1523 | PXA1523 | PXA1523 | |
| | Packing case | AHD2507 | AHD7005 | AHD7005 | AHD7005 | |
| | Operating instructions (English, French, German, Italian) | ARE1266 | ARE7005 | .................. | .................. | |
| | Operating instructions (Dutch, Swedish, Spanish, Portuguese) | ARE1267 | ARE7006 | .................. | .................. | |
| | Operating instructions (English) | .................. | .................. | ARB7003 | .................. | |
| | Operating instructions (German, Italian) | .................. | .................. | .................. | ARC7003 | |

*Note :*

**1 : AWZ4646, AWZ4667, AWZ4673 and AWZ4679 are the same as those of XD−J115M/HEWZIW which is shown in the service manual ARP2650 for XD−J115M.*

**2 : AWZ4681 is the same as that of XD−J115M/HB which is shown in the service manual ARP2650 for XD−J115M.*

## CD PLAYER UNIT

PD−XD125M/E and PD−XD115M/E have the same construction except for the following :

| Mark | Symbol & Description | Part No. |  | Remarks |
|---|---|---|---|---|
|  |  | PD−XD115M/E | PD−XD125M/E |  |
|  | Control button | PAC1705 | PAC1787 |  |
|  | Function panel assy | PEA1270 | .................. |  |
| NSP | Function panel | PNW2327 | PNW2472 |  |
| NSP | Servo mechanism assy M | PXA1417 | PXA1543 *3 |  |

*Note :*
**3 : Although PXA1543 and PXA1417 are different in part number, they consist of the same components.*

## ■ FOR XD−J120

XD−J120/HE, HB, HEWZIW and XD−J110/HE have the same construction except for the following :

| Mark | Symbol & Description | Part No. |  |  |  | Remarks |
|---|---|---|---|---|---|---|
|  |  | XD−J110 /HE | XD−J120 /HE | XD−J120 /HB | XD−J120 /HEWZIW |  |
|  | AF assy | AWZ4645 | AWZ4645 | AWZ4645 | AWZ4646 *1 |  |
|  | VOLUME assy | AWZ4653 | AWZ7263 | AWZ7263 | AWZ7264 |  |
|  | SW assy | AWK1746 | .................. | .................. | .................. |  |
| NSP | HEADPHONE assy | AWZ4666 | AWZ4666 | AWZ4666 | AWZ4667 *1 |  |
| NSP | TRANS CONNECT assy | AWZ4672 | AWZ4672 | AWZ4672 | AWZ4673 *1 |  |
|  | SUB TRANS assy | AWZ4678 | AWZ4678 | AWZ4681 *2 | AWZ4679 *1 |  |
| NSP | CD PLAYER unit | PD−XD110/E | PD−XD120/E | PD−XD120/E | PD−XD120/E |  |
| ⚠ | AC power cord | ADG1127 | ADG1127 | ADG1144 | ADG1127 |  |
|  | Button (POWER) | AAD2370 | AAD7050 | AAD7050 | AAD7050 |  |
|  | Cursor button | AAD2377 | AAD7010 | AAD7010 | AAD7010 |  |
|  | Button (DECK) | AAD2379 | AAD7011 | AAD7011 | AAD7011 |  |
|  | Decorative plate (DECK) | AAK2398 | AAK7023 | AAK7023 | AAK7023 |  |
|  | Decorative plate (AMP) | AAK2441 | AAK7025 | AAK7025 | AAK7025 |  |
|  | Screw (GND) | .................. | .................. | .................. | ABA1047 |  |
| NSP | Name plate | AAL2019 | AAL7013 | AAL7012 | AAL7014 |  |
|  | Cassette door L (PLS) | AAN1365 | AAN7003 | AAN7003 | AAN7003 |  |
|  | Cassette door R (PLS) | AAN1376 | AAN7009 | AAN7009 | AAN7009 |  |
|  | Strain relief | .................. | .................. | AEC−882 | .................. |  |
|  | Front panel | AMB2093 | AMB7018 | AMB7018 | AMB7018 |  |
|  | Rear panel | ANC2008 | ANC7016 | ANC7017 | ANC7016 |  |

*Note :*
**1 : AWZ4646, AWZ4667, AWZ4673 and AWZ4679 are the same as those of XD−J110/HEWZIW which is shown in the service manual ARP2650 for XD−J110.*
**2 : AWZ4681 is the same as that of XD−J110/HB which is shown in the service manual ARP2650 for XD−J110.*

| Mark | Symbol & Description | Part No. | | | | Remarks |
|---|---|---|---|---|---|---|
| | | XD−J110 /HE | XD−J120 /HE | XD−J120 /HB | XD−J120 /HEWZIW | |
| | Packing case | AHD2506 | AHD7004 | AHD7004 | AHD7004 | |
| | Operating instructions (English, French, German, Italian) | ARE1264 | ARE7003 | .................. | .................. | |
| | Operating instructions (Dutch, Swedish, Spanish, Portuguese) | ARE1265 | ARE7004 | .................. | .................. | |
| | Operating instructions (English) | .................. | .................. | ARB7002 | .................. | |
| | Operating instructions (German, Italian) | .................. | .................. | .................. | ARC7002 | |

## CD PLAYER UNIT

PD−XD120/E and PD−XD110/E have the same construction except for the following :

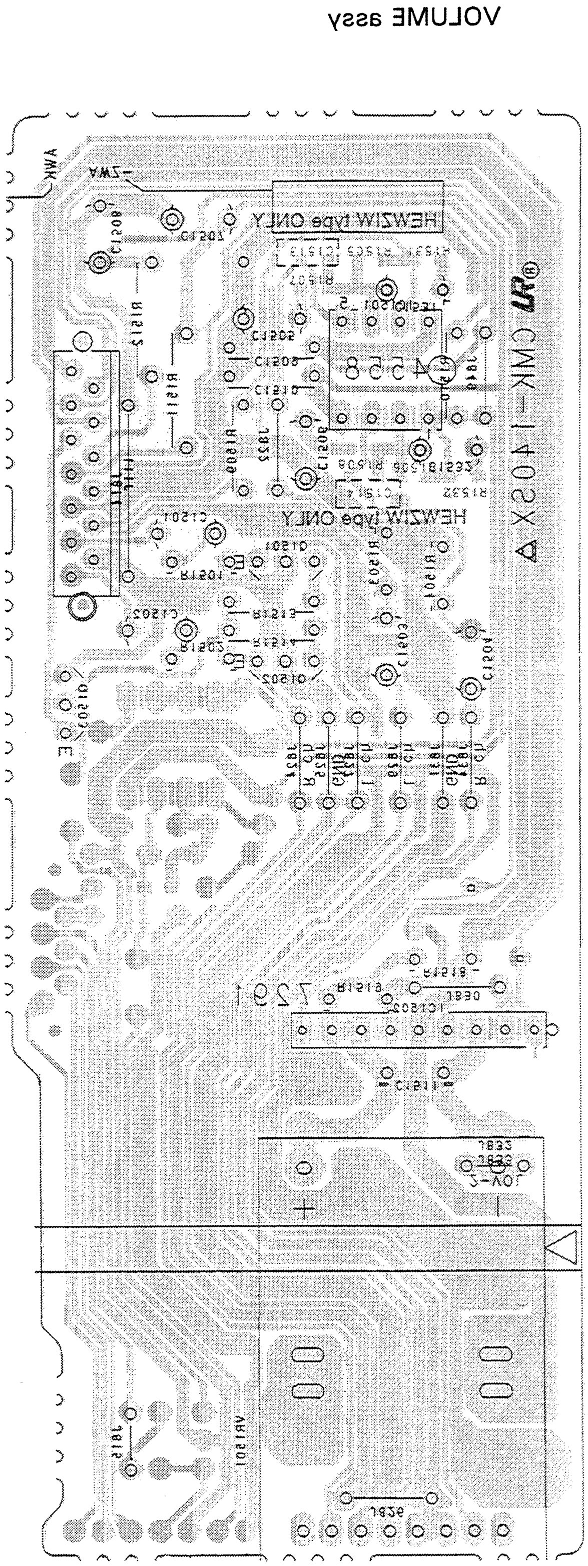
| Mark | Symbol & Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | PD−XD110/E | PD−XD120/E | |
| | Control button | PAC1705 | PAC1787 | |
| | Function panel assy | PEA1272 | .................. | |
| NSP | Function panel | PNW2325 | PNW2471 | |
| | Name plate | PNW2234 | PNW2447 | |

## VOLUME assy

AWZ7263, AWZ7264 and AWZ4653 have the same construction except for the following :

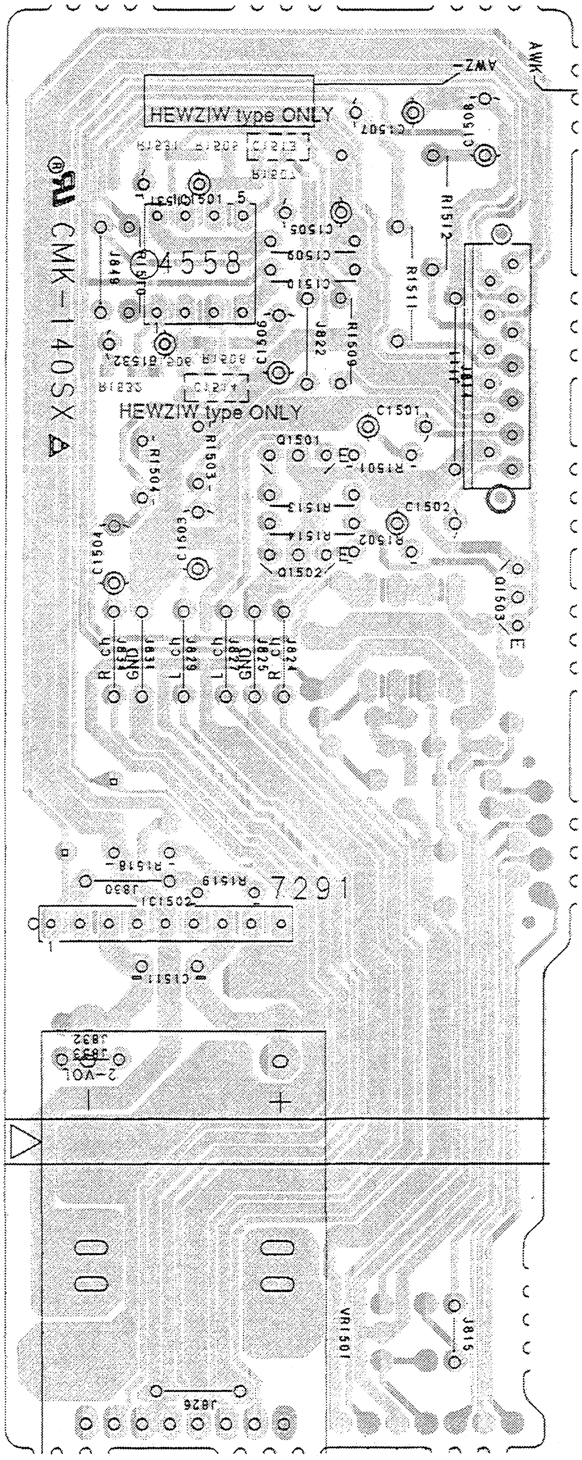
| Mark | Symbol & Description | Part No. | | | Remarks |
|---|---|---|---|---|---|
| | | AWZ4653 | AWZ7263 | AWZ7264 | |
| | C1513, C1514 | .................. | .................. | CCSQSL330J50 | |
| | C1531, C1532 | .................. | CEAS0R1M50 | CEAS0R1M50 | |
| | R1505, R1506 | RS1/10S272J | RS1/10S512J | RS1/10S512J | |
| | R1531, R1532 | .................. | RS1/10S752J | RS1/10S752J | |

## 2. SCHEMATIC AND PCB DIAGRAMS


VOLUME assy
HEWZIW type ONLY
AXS041-XMC
4558

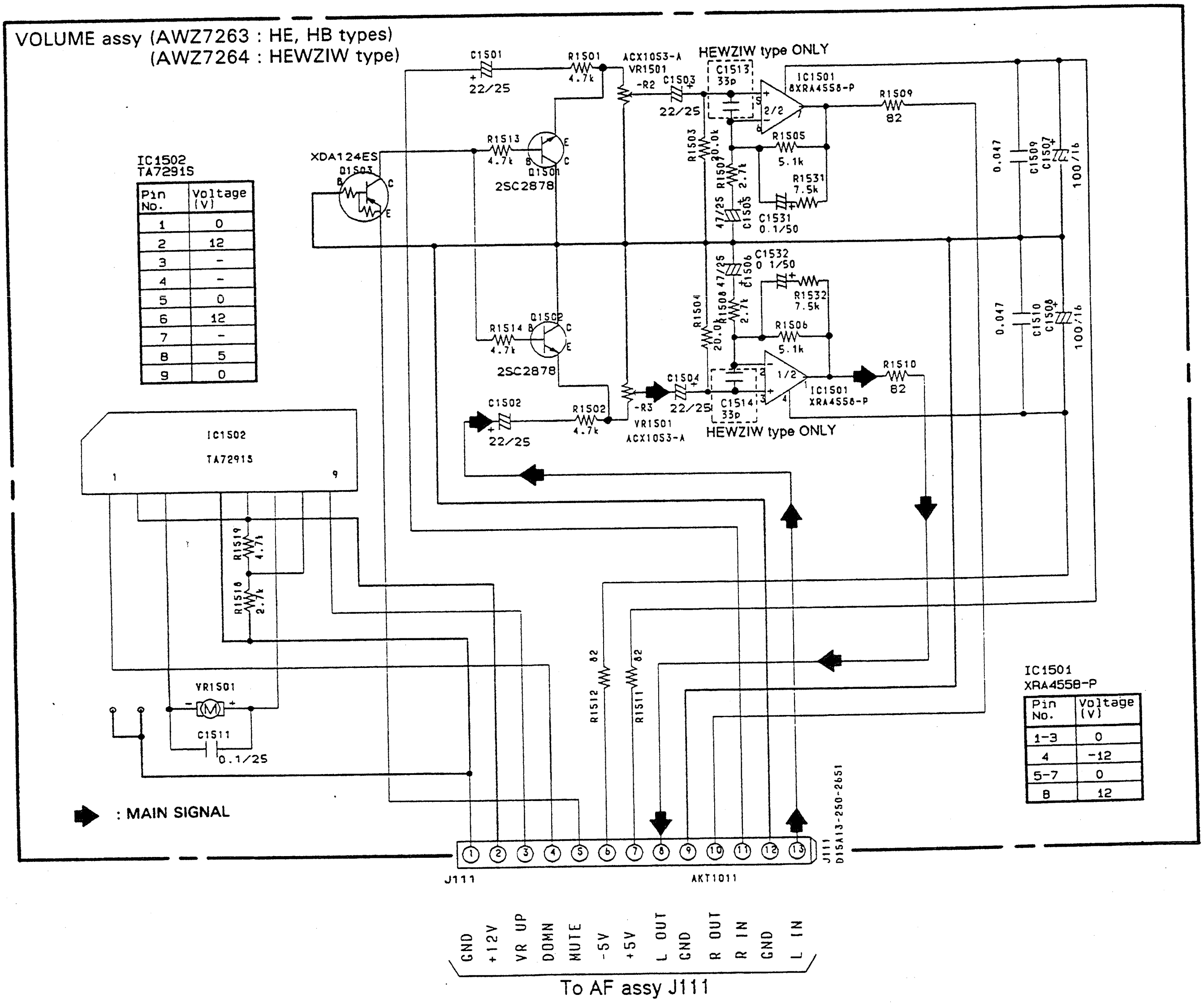
- This diagram is viewed from the foil side.

VOLUME assy


AWK
AWZ
HEWZIW type ONLY
C1507
C1508
R1512
R1511
IC1501
4558
C1505
C1509
C1510
J849
J822
R1509
C1506
CMK-140SX
HEWZIW type ONLY
C1501
Q1501
R1501
J814
R1504
R1503
R1513
R1514
C1502
R1502
Q1502
Q1503
C1504
C1503
Rch
GND
L
J831
J829
J827
J825
J824
R1518
R1519
J830
IC1502
7291
C1511
J832
J833
2-VOL
−
+
VR1501
J815
J826

- This diagram is viewed from the mounted parts side.

SCH-1F


VOLUME assy (AWZ7263 : HE, HB types)
(AWZ7264 : HEWZIW type)
C1501
22/25
R1501
4.7k
ACX1053-A
VR1501
-R2
C1503
22/25
HEWZIW type ONLY
C1513
33p
IC1501
8XRA4558-P
2/2
R1509
82
R1503
20.0k
R1507
2.7k
47/25
C1505
R1505
5.1k
R1531
7.5k
C1531
0.1/50
XDA124ES
Q1503
R1513
4.7k
Q1501
2SC2878
0.047
C1509
C1507
100/16
C1532
0.1/50
47/25
C1506
R1504
20.0k
R1508
2.7k
R1532
7.5k
R1506
5.1k
0.047
C1510
C1508
100/16
R1514
4.7k
Q1502
2SC2878
C1504
22/25
C1514
33p
1/2
IC1501
XRA4558-P
R1510
82
C1502
22/25
R1502
4.7k
-R3
VR1501
ACX1053-A
HEWZIW type ONLY
IC1502
TA7291S
R1519
4.7k
R1518
2.7k
VR1501
M
C1511
0.1/25
R1512
82
R1511
82
: MAIN SIGNAL
J111
AKT1011
D15A13-250-2651
GND
+12V
VR UP
DOWN
MUTE
-5V
+5V
L OUT
GND
R OUT
R IN
GND
L IN
To AF assy J111

IC1502
TA7291S

| Pin No. | Voltage (V) |
|---|---|
| 1 | 0 |
| 2 | 12 |
| 3 | - |
| 4 | - |
| 5 | 0 |
| 6 | 12 |
| 7 | - |
| 8 | 5 |
| 9 | 0 |

IC1501
XRA4558-P

| Pin No. | Voltage (V) |
|---|---|
| 1-3 | 0 |
| 4 | -12 |
| 5-7 | 0 |
| 8 | 12 |

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# Service Manual

**PIONEER**
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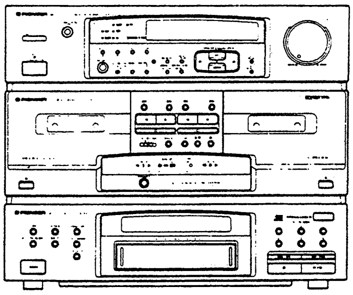

ORDER NO.
**ARP2650**

## MULTI CD DOUBLE DECK AMPLIFIER
# XD-J115M
## CD DOUBLE DECK AMPLIFIER
# XD-J110

**XD-J115M AND XD-J110 HAVE THE FOLLOWING :**

| Type | Model | | Power Requirement | Remarks |
|---|---|---|---|---|
| | XD-J115M | XD-J110 | | |
| HE | ○ | ○ | AC220V-230V, 240V (Switchable)* | |
| HB | ○ | ○ | AC220V-230V, 240V (Switchable)* | |
| HEWZIW | ○ | ○ | AC220V-230V, 240V (Switchable)* | |

* Change the connection of the power transformer's primary wiring.

- **This manual is applicable to the following : XD-J115M/HE, HB and HEWZIW ; XD-J110/HE, HB and HEWZIW.**
- **For the following : XD-J115M/HB and HEWZIW ; XD-J110/HB and HEWZIW, refer to page 113.**
- **These products are systems components.**
  **Each of these products does not function properly when independent ; to avoid malfunctions, be sure to connect it to the prescribed system component (s), otherwise damage may result.**

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# 1. SAFETY INFORMATION

## (FOR EUROPEAN MODEL ONLY)

**VARO!**

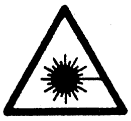
AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

**ADVERSEL:**

USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSAETTELSE FOR STRÅLING.

**VARNING!**

OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.



LASER
Kuva 1
Lasersateilyn
varoitusmerkki

**WARNING!**

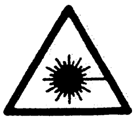
DEVICE INCLUDES LASER DIODE WHICH EMITS INVISIBLE INFRARED RADIATION WHICH IS DANGEROUS TO EYES. THERE IS A WARNING SIGN ACCORDING TO PICTURE 1 INSIDE THE DEVICE CLOSE TO THE LASER DIODE.

**IMPORTANT**

THIS PIONEER APPARATUS CONTAINS LASER OF CLASS 1.
SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

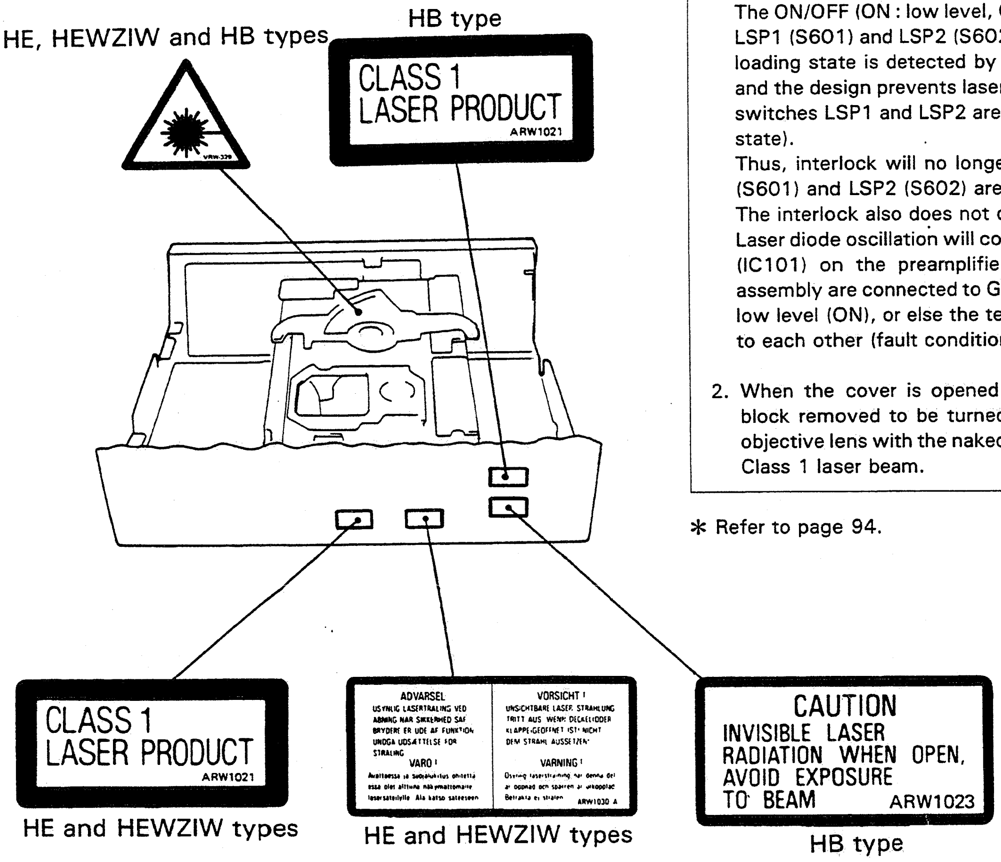
**LASER DIODE CHARACTERISTICS**

MAXIMUM OUTPUT POWER: 5 mw
WAVELENGTH: 780-785 nm



LASER
Picture 1
Warning sign for
laser radiation

## LABEL CHECK (MULTI MAGAZINE type)


HE, HEWZIW and HB types
VRW-379
HB type
CLASS 1
LASER PRODUCT
ARW1021
CLASS 1
LASER PRODUCT
ARW1021
HE and HEWZIW types
ADVARSEL
USYNLIG LASERTRALING VED
ABNING NAR SIKKERHED SAF
BRYDERE ER UDE AF FUNKTION
UNDGA UDSÆTTELSE FOR
STRALING
VARO!
Avattaessa ja suojalukitus ohitetta
essa olet alttiina näkymättömälle
lasersäteilylle. Älä katso säteeseen
VORSICHT!
UNSICHTBARE LASER STRAHLUNG
TRITT AUS WENN DECKEL(ODER
KLAPPE)GEOFFNET IST! NICHT
DEM STRAHL AUSSETZEN!
VARNING!
Osynlig laserstrålning när denna del
är öppnad och spärren är urkopplad
Betrakta ej strålen
ARW1030 A
HE and HEWZIW types
CAUTION
INVISIBLE LASER
RADIATION WHEN OPEN,
AVOID EXPOSURE
TO BEAM
ARW1023
HB type

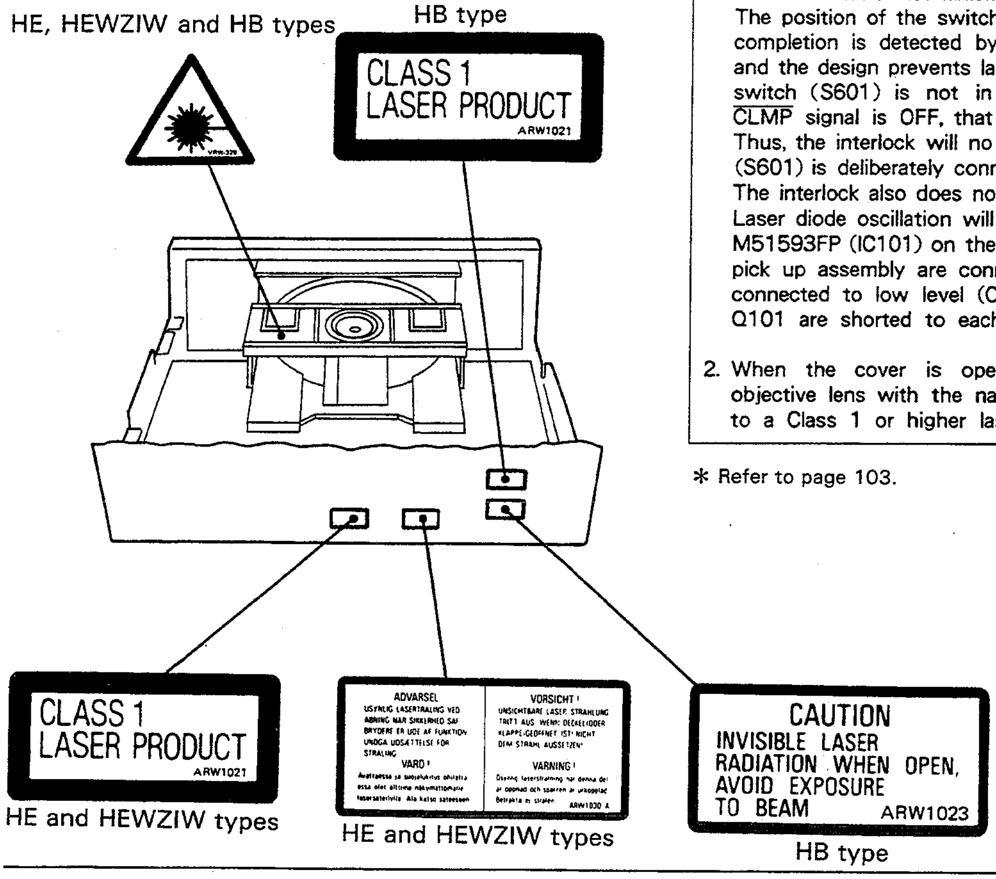
**Additional Laser Caution**

1. Laser Interlock Mechanism
   The ON/OFF (ON : low level, OFF : high level) status of the LSP1 (S601) and LSP2 (S602) switches for detecting the loading state is detected by the system microprocessor, and the design prevents laser diode oscillation when both switches LSP1 and LSP2 are not ON (low level) (clamped state).
   Thus, interlock will no longer function if switches LSP1 (S601) and LSP2 (S602) are deliberately shorted.
   The interlock also does not operate in the test mode*.
   Laser diode oscillation will continue, if pin 1 of M51593FP (IC101) on the preamplifier board loaded on pick up assembly are connected to GND, or pin 19 is connected to low level (ON), or else the terminals of Q101 are shorted to each other (fault condition).
2. When the cover is opened with the servo mechanism block removed to be turned over, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

'92M1A

* Refer to page 94.

## LABEL CHECK (SINGLE MAGAZINE type)


HE, HEWZIW and HB types
HB type
CLASS 1
LASER PRODUCT
ARW1021
VRW-329
CLASS 1
LASER PRODUCT
ARW1021
HE and HEWZIW types
ADVARSEL
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSÆTTELSE FOR STRÅLING
VARO!
Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen
VORSICHT!
UNSICHTBARE LASERSTRAHLUNG TRITT AUS, WENN DECKEL (ODER KLAPPE) GEÖFFNET IST! NICHT DEM STRAHL AUSSETZEN!
VARNING!
Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.
ARW1030-A
HE and HEWZIW types
CAUTION
INVISIBLE LASER
RADIATION WHEN OPEN,
AVOID EXPOSURE
TO BEAM
ARW1023
HB type

**Additional Laser Caution**

1. Laser Interlock Mechanism
   The position of the switch (S601) for detecting loading completion is detected by the system microprocessor, and the design prevents laser diode oscillation when the switch (S601) is not in $\overline{\text{CLMP}}$ terminal side (when $\overline{\text{CLMP}}$ signal is OFF, that is high level).
   Thus, the interlock will no longer function if the switch (S601) is deliberately connected to ground (low level). The interlock also does not operate in the test mode＊. Laser diode oscillation will continue, if pins 1 and 2 of M51593FP (IC101) on the preamplifier board loaded on pick up assembly are connected to GND, or pin 19 is connected to low level (ON), or else the terminals of Q101 are shorted to each other (fault condition).
2. When the cover is opened, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 or higher laser beam.

＊ Refer to page 103.

---

## LITHIUM BATTERY NOTICE

**WARNING!**

Lithium batteries. Danger of explosion. Replacement must be done by qualified personnel and only by following the instructions given in the service manual.

This warning is stated on the product or in the operating instructions. When replacing the lithium batteries, follow the note below.
Dispose of the used battery promptly. Keep away from children. Do not disassemble and do not dispose of in fire.
The battery used in this device may present a fire or chemical hazard if mistreated. Do not recharge, disassemble, heat above 100°C or incinerate. Replace only with the same Part Number. Use of another battery may present a risk of fire or explosion.

Note: The lithium battery installation position is shown in the exploded view and the P.C. board pattern.

**ADVARSEL!**

Lithiumbatteri — Eksplosionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandøren.

Denne advarsel er angivet på produktet eller i brugsvejledningen. Ved udskiftning af lithium batterierne følges nedenstående anveisning.
Batterierne må kun udskiftes med batterier af samme type og mærke.

**VARNING**

Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

Denna varning finns på apparaten eller i bruksanvisningen. Följ nedanstående anvisningar vid byte av litiumbatterier.
Batterierna får endast bytas ut mot litiumbatterier av samma typ och fabrikat.

# 2. EXPLODED VIEWS, PACKING AND PARTS LIST

*NOTES:*
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

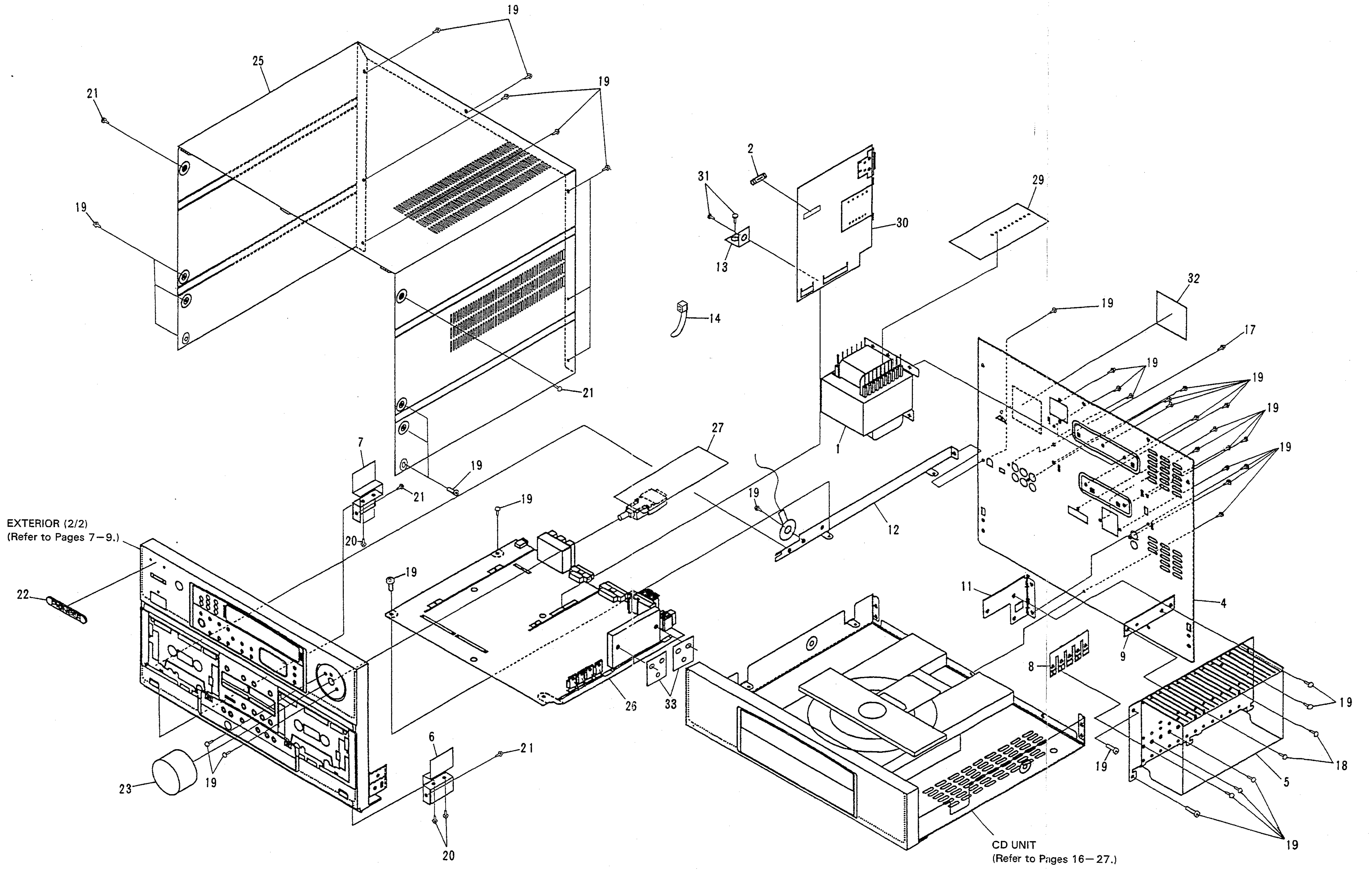
## 2.1 DECK AMP BLOCK (XD−J115M AND XD−J110)

### 2.1.1 Exterior (1/2)

**Parts list**

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| ⚠ | 1 | POWER TRANSFORMER (T) | ATS1469 |
| ⚠ | 2 | FUSE (T800mA/250V, FU1102) | AEK−507 |
| | 3 | .................. | |
| | 4 | REAR PANEL (MTL) | ANC2008 |
| | 5 | HEAT SINK (AL) | ANH1408 |
| | 6 | PLATE L | ANG1536 |
| | 7 | PLATE R | ANG1537 |
| NSP | 8 | PLATE | ANG1561 |
| NSP | 9 | HOLDER | ANG1600 |
| | 10 | .................. | |
| | 11 | HEAT SINK HOLDER (MTL) | ANG1777 |
| | 12 | PCB HOLDER B (MTL) | ANG1779 |
| | 13 | PCB HOLDER (MTL) | ANG1838 |
| NSP | 14 | BINDER | AEC−093 |
| | 15 | .................. | |
| | 16 | .................. | |
| | 17 | SCREW | ABA−222 |
| | 18 | SCREW (3 × 18) | ABA1018 |
| | 19 | SCREW | BBZ30P080FZK |
| | 20 | SCREW | BBZ30P100FZK |
| | 21 | SCREW | VPZ30P080FZK |
| | 22 | BADGE (ABS) | AAM1047 |
| | 23 | VOL KNOB | AAB1337 |
| | 24 | .................. | AAB1339 |
| | 25 | BONNET CASE (MTL) | ANE1390 |
| | 26 | AF ASSEMBLY | AWZ4645 |
| | 27 | VOLUME ASSEMBLY | AWZ4653 |
| | 28 | .................. | |
| NSP | 29 | TRANS CONNECT ASSEMBLY | AWZ4672 |
| | 30 | SUB TRANS ASSEMBLY | AWZ4678 |
| | 31 | NYLON RIVET | AEC1160 |
| NSP | 32 | NAME PLATE (For XD−J115M) | AAL2022 |
| NSP | 32 | NAME PLATE (For XD−J110) | AAL2019 |
| | 33 | MICA SHEET | AEP−313 |

- Exterior (1/2)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27
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7
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21
19
12
EXTERIOR (2/2)
(Refer to Pages 7−9.)
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6
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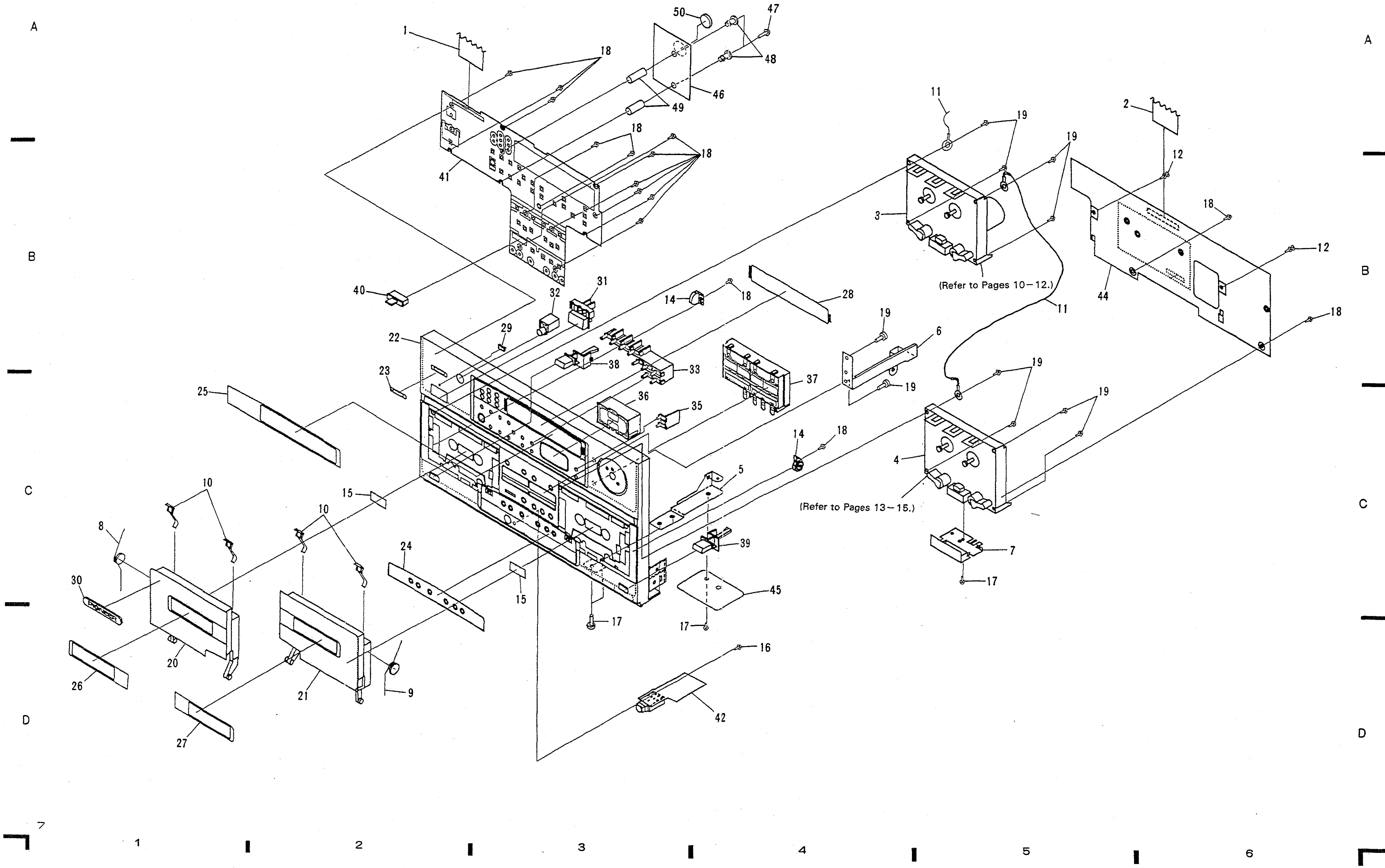
23
19
20
CD UNIT
(Refer to Pages 16−27.)
19

**NOTE : Screws adjacent to ▼ mark on the product are used for disassembly.**

### 2.1.2 Exterior (2/2)

- Exterior (2/2)


A
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C
D
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41
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12
(Refer to Pages 10−12.)
44
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(Refer to Pages 13−15.)
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16
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## Parts list

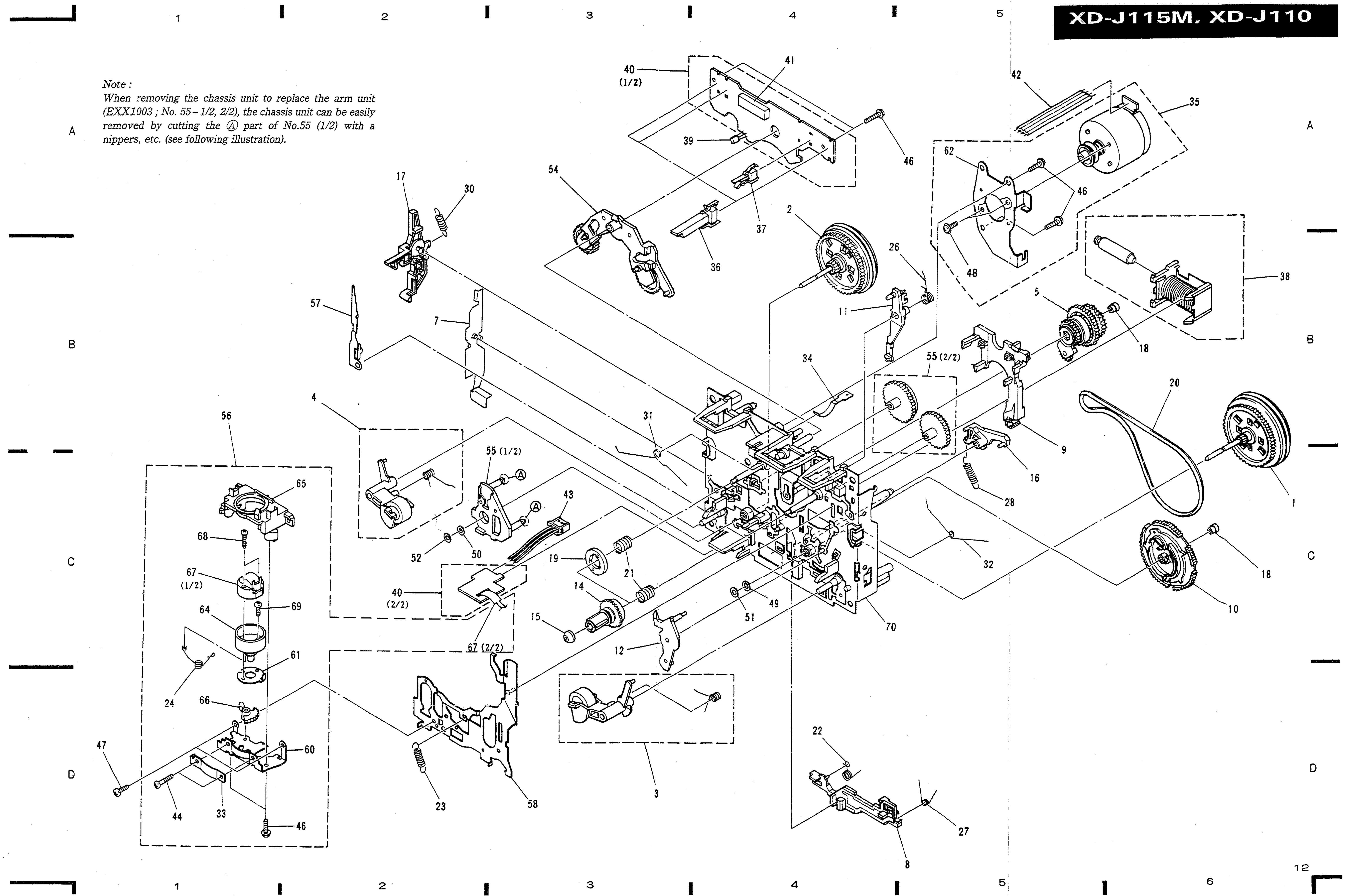
| Mark | No. | Description | Parts No. |
|---|---|---|---|
| ⚠NSP | 1 | FLAT CABLE (J112) | ADD1112 |
| ⚠ | 2 | FLAT CABLE (J105) | ADD1116 |
|  | 3 | CASSETTE 1 MECHA UNIT | EXK2026 |
|  | 4 | CASSETTE 2 MECHA UNIT | EXK2056 |
|  | 5 | PCB HOLDER A (MTL) | ANG1778 |
|  | 6 | HEAT SINK HOLDER (MTL) | ANG1837 |
|  | 7 | SHIELD PLATE (MECHA) | ANK1157 |
|  | 8 | DOOR SPRING L | ABH1085 |
|  | 9 | DOOR SPRING R | ABH1086 |
|  | 10 | KEEP PLATE | ABK1017 |
| NSP | 11 | EARTH LEAD | ADB1006 |
|  | 12 | NYLON RIVET | AEC1160 |
|  | 13 | .................. |  |
|  | 14 | DAMPER ASSEMBLY | AXA1008 |
|  | 15 | SHEET | AAX1301 |
|  | 16 | SCREW (2.6×8) | ABA1095 |
|  | 17 | SCREW | BBZ30P080FZK |
|  | 18 | SCREW | BPZ26P080FMC |
|  | 19 | SCREW | VPZ30P080FZK |
|  | 20 | CASSETTE DOOR L (PLS) | AAN1365 |
|  | 21 | CASSETTE DOOR R (PLS) | AAN1376 |
|  | 22 | FRONT PANEL (For XD−J115M) | AMB2094 |
|  | 22 | FRONT PANEL (For XD−J110) | AMB2093 |
|  | 23 | FILTER (REMOCON) | AAK2376 |
|  | 24 | DECORATIVE PLATE (DECK) | AAK2398 |
|  | 25 | DECORATIVE PLATE (AMP) | AAK2441 |
|  | 26 | DECORATIVE PLATE (DOOR) L | AAK2400 |
|  | 27 | DECORATIVE PLATE (DOOR) R | AAK2402 |
|  | 28 | FL FILTER (PVC) | AAK2430 |
|  | 29 | POWER LENS (PLS) | AAK2442 |
|  | 30 | BADGE (ABS) | AAM1047 |
|  | 31 | BUTTON (POWER) | AAD2370 |
|  | 32 | BUTTON (FUNCTION) | AAD2372 |
|  | 33 | BUTTON (GEQ) | AAD2373 |
|  | 34 | .................. |  |
|  | 35 | BUTTON (AUDITION) | AAD2375 |
|  | 36 | CURSOR BUTTON | AAD2377 |
|  | 37 | BUTTON (DECK) | AAD2379 |
|  | 38 | EJECT BUTTON L (PLS) | AAD2380 |
|  | 39 | EJECT BUTTON R (PLS) | AAD2381 |
|  | 40 | SLIDE KNOB (PLS) | AAE1160 |
|  | 41 | DISPLAY ASSEMBLY | AWZ4656 |
|  | 42 | HEADPHONE ASSEMBLY | AWZ4666 |
|  | 43 | .................. |  |
|  | 44 | TAPE ASSEMBLY | AWV1335 |
| NSP | 45 | SHIELD PLATE | ANK1159 |
|  | 46 | SW ASSEMBLY | AWK1746 |
|  | 47 | SCREW | PBZ26P250FMC |
| NSP | 48 | BUSH | AEC1326 |
| NSP | 49 | COLLAR | AEC1327 |
| ⚠ | 50 | LITHIUM BATTERY | AEX1014 |

## 2.1.3 Cassette 1 Mecha Unit

**Parts list**

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | 1 | FLYWHEEL UNIT (FWD) | EXA1222 |
| | 2 | FLYWHEEL UNIT (RVS) | EXA1223 |
| | 3 | ROLLER UNIT (FWD) | EXA1224 |
| | 4 | ROLLER UNIT (RVS) | EXA1225 |
| | 5 | LIMITER UNIT | EXA1226 |
| | 6 | ............... | |
| | 7 | EJECT LEVER L2 | AZN2063 |
| | 8 | LEVER | ENV1305 |
| | 9 | BRAKE | ENV1317 |
| | 10 | GEAR | ENV1318 |
| | 11 | LOCK ARM | ENV1159 |
| | 12 | NR ARM | ENV1163 |
| | 13 | .................. | |
| | 14 | REEL | ENV1335 |
| | 15 | REEL BUSH | ENV1338 |
| | 16 | ARM | ENV1330 |
| | 17 | EJECT LEVER L1 | AZN2108 |
| | 18 | BUSH | ENV1184 |
| | 19 | MAGNET | ENV1336 |
| | 20 | BELT | ENT1023 |
| | 21 | SPRING | EBH1424 |
| | 22 | SPRING | EBH1401 |
| | 23 | SPRING | EBH1203 |
| | 24 | SPRING | EBH1402 |
| | 25 | .................. | |
| | 26 | SPRING | EBH1406 |
| | 27 | SPRING | EBH1407 |
| | 28 | SPRING | EBH1408 |
| | 29 | .................. | |
| | 30 | SPRING | EBH1409 |
| | 31 | SPRING | EBH1410 |
| | 32 | SPRING | EBH1256 |
| | 33 | SPRING | EBL1013 |
| | 34 | SPRING | EBL1014 |
| | 35 | MOTOR UNIT | EXA1241 |
| | 36 | SWITCH (Detect) | ESN1009 |
| | 37 | SWITCH (Mode) | ESN1010 |
| | 38 | SOLENOID | EXP1005 |
| | 39 | HALL IC | DN6847SE |
| | 40 | COMPLEX PCB | ENX1020 |
| | 41 | CONNECTOR (10P) | EKS1013 |
| | 42 | LEAD WIRE (4P) | EDD1003 |
| | 43 | CONNECTOR (3P) | EDE1009 |
| | 44 | SCREW (AZIMUTH) | EBA1020 |
| | 45 | .................. | |
| | 46 | SCREW (M2 × 8) | ATZ20P080FMC |
| | 47 | SCREW | BSZ20P050FMC |
| | 48 | SCREW | PMS26P025FUC |
| | 49 | WASHER | EBF1008 |
| | 50 | WASHER | EBF1009 |
| | 51 | WASHER | EBF1010 |
| | 52 | WASHER | EBF1011 |
| | 53 | ............... | |
| | 54 | ARM UNIT | EXX1006 |
| | 55 | ARM UNIT | EXX1003 |
| | 56 | P HEAD ASSEMBLY | EXX1008 |
| | 57 | ARM | ENC1288 |
| | 58 | HEAD BASE UNIT | EXA1230 |
| | 59 | .................. | |
| NSP | 60 | BRACKET | ENC1284 |
| NSP | 61 | PLATE | ENC1285 |
| NSP | 62 | BRACKET | ENC1199 |
| | 63 | .................. | |
| NSP | 64 | HOLDER | ENV1161 |
| NSP | 65 | HOLDER | ENV1301 |
| NSP | 66 | GEAR | ENV1177 |
| NSP | 67 | P HEAD UNIT | EXA1110 |
| NSP | 68 | SCREW | JGZ14P085FNI |
| NSP | 69 | SCREW | JGZ14P040FNI |
| NSP | 70 | CHASSIS UNIT | .................. |

*Note :*
*When removing the chassis unit to replace the arm unit (EXX1003 ; No. 55 – 1/2, 2/2), the chassis unit can be easily removed by cutting the Ⓐ part of No.55 (1/2) with a nippers, etc. (see following illustration).*


1
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(1/2)
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62
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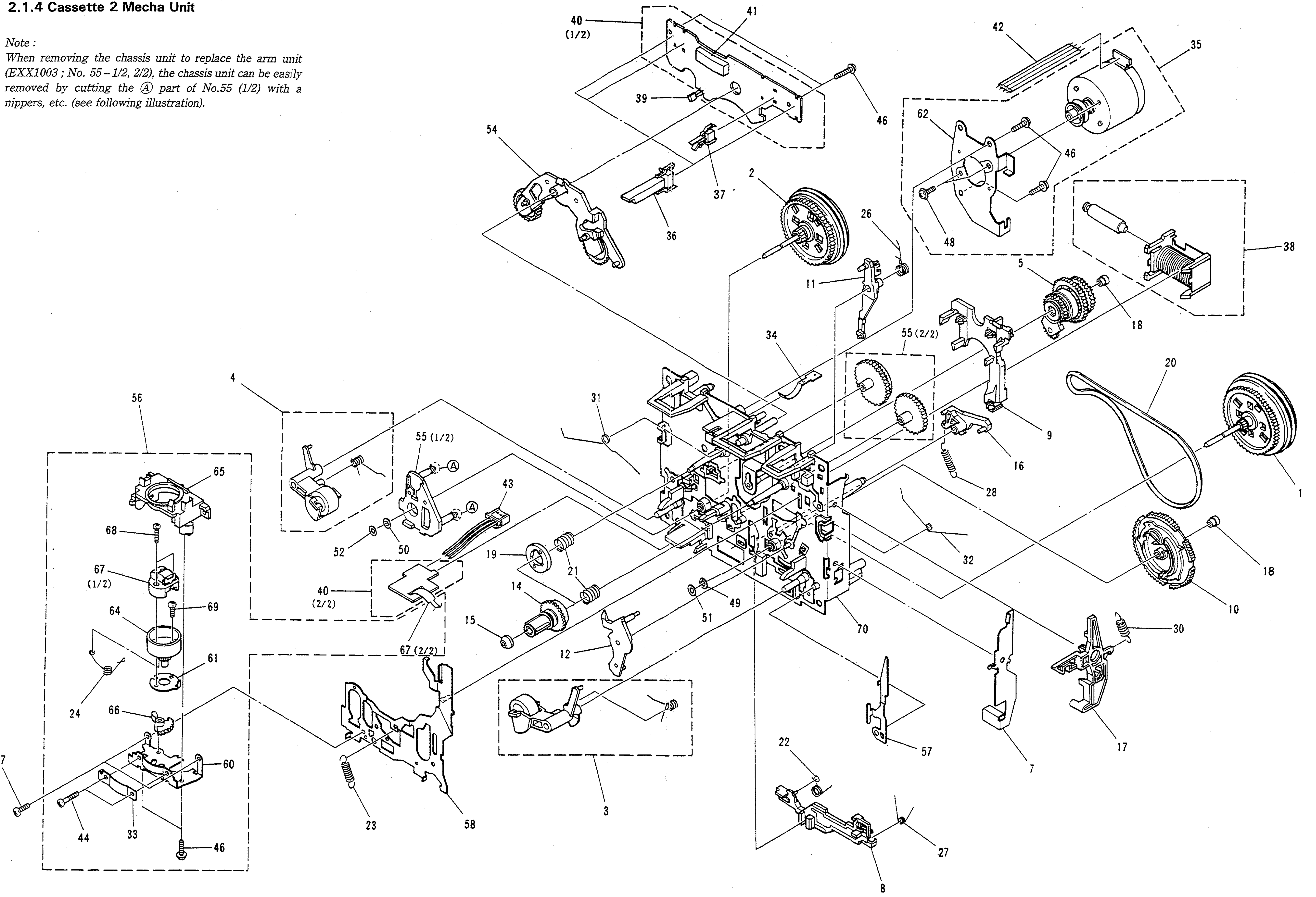
54
37
36
2
26
11
57
7
5
18
34
55 (2/2)
20
4
31
9
16
28
1
56
65
55 (1/2)
Ⓐ
Ⓐ
43
68
52
50
19
21
32
18
67
(1/2)
40
(2/2)
14
21
10
69
64
15
51
49
70
61
12
67 (2/2)
24
66
47
60
3
22
44
33
23
58
27
46
8

### 2.1.4 Cassette 2 Mecha Unit

*Note :*

*When removing the chassis unit to replace the arm unit (EXX1003 ; No. 55 – 1/2, 2/2), the chassis unit can be easily removed by cutting the Ⓐ part of No.55 (1/2) with a nippers, etc. (see following illustration).*


40 (1/2)
41
42
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62
46
54
37
36
2
48
26
38
11
5
18
34
55 (2/2)
20
4
31
9
56
55 (1/2)
Ⓐ
Ⓐ
16
65
43
28
1
68
52
50
19
21
32
18
67 (1/2)
40 (2/2)
21
14
49
69
64
15
51
70
10
30
12
67 (2/2)
61
24
66
3
57
7
17
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60
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A
B
C
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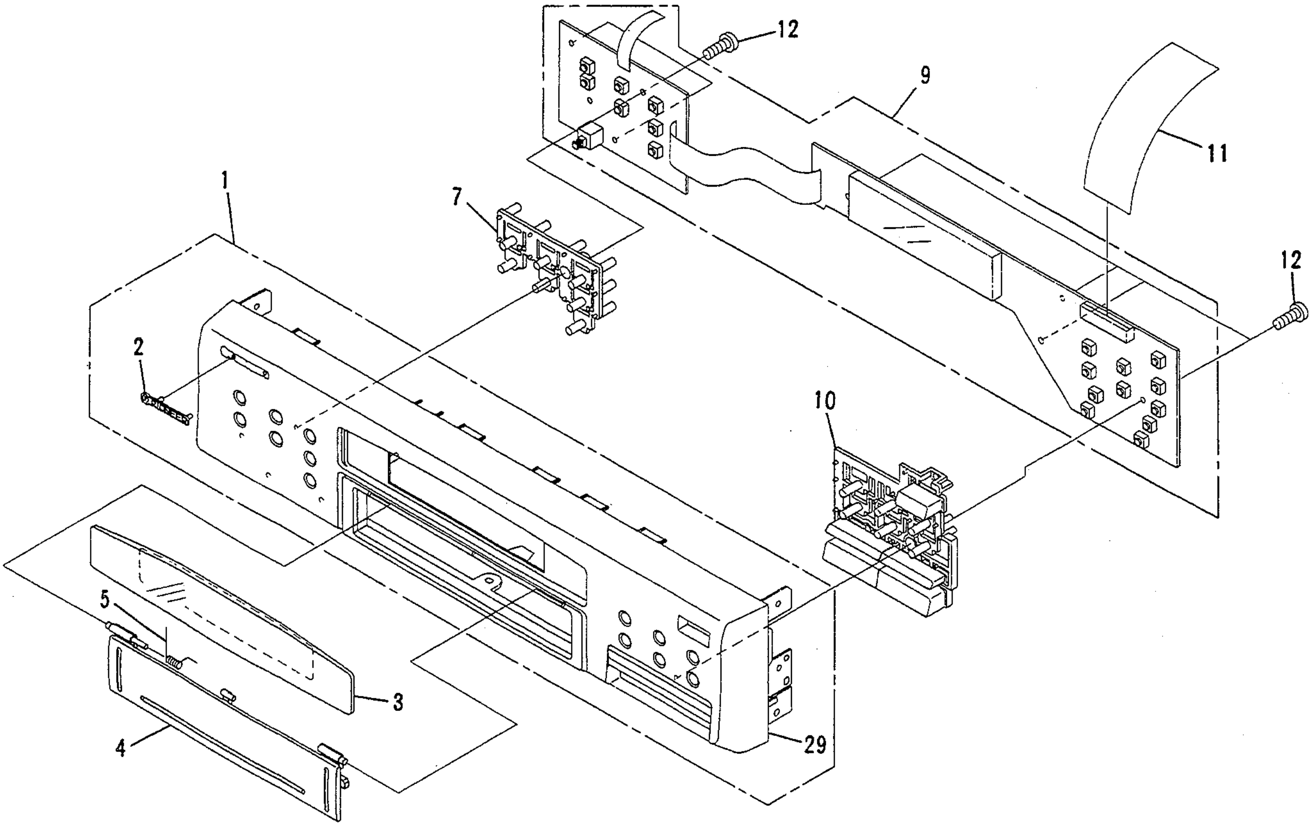
5
6

## Parts list

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | 1 | FLYWHEEL UNIT (FWD) | EXA1222 |
| | 2 | FLYWHEEL UNIT (RVS) | EXA1223 |
| | 3 | ROLLER UNIT (FWD) | EXA1224 |
| | 4 | ROLLER UNIT (RVS) | EXA1225 |
| | 5 | LIMITER UNIT | EXA1226 |
| | 6 | ............... | |
| | 7 | EJECT LEVER R2 | AZN2064 |
| | 8 | NR LEVER | ENV1305 |
| | 9 | BRAKE | ENV1317 |
| | 10 | CAM GEAR | ENV1318 |
| | 11 | LOCK ARM | ENV1159 |
| | 12 | NR ARM | ENV1163 |
| | 13 | .................. | |
| | 14 | REEL | ENV1335 |
| | 15 | REEL BUSH | ENV1338 |
| | 16 | ARM | ENV1330 |
| | 17 | EJECT LEVER R1 | AZN2109 |
| | 18 | BUSH | ENV1184 |
| | 19 | MAGNET | ENV1336 |
| | 20 | BELT | ENT1023 |
| | 21 | SPRING | EBH1424 |
| | 22 | SPRING | EBH1401 |
| | 23 | SPRING | EBH1203 |
| | 24 | SPRING | EBH1402 |
| | 25 | .................. | |
| | 26 | SPRING | EBH1406 |
| | 27 | SPRING | EBH1407 |
| | 28 | SPRING | EBH1408 |
| | 29 | .................. | |
| | 30 | SPRING | EBH1409 |
| | 31 | SPRING | EBH1410 |
| | 32 | SPRING | EBH1256 |
| | 33 | SPRING | EBL1013 |
| | 34 | SPRING | EBL1014 |
| | 35 | MOTOR UNIT | EXA1241 |
| | 36 | SWITCH (Detect) | ESN1009 |
| | 37 | SWITCH (Mode) | ESN1010 |
| | 38 | SOLENOID | EXP1005 |
| | 39 | HALL IC | DN6847SE |
| | 40 | SUB COMPLEX PCB | ENX1019 |
| | 41 | CONNECTOR (15P) | EKS1012 |
| | 42 | LEAD WIRE (4P) | EDD1003 |
| | 43 | CONNECTOR (5P) | EDE1008 |
| | 44 | SCREW (AZIMUTH) | EBA1020 |
| | 45 | .................. | |
| | 46 | SCREW (M2×8) | ATZ20P080FMC |
| | 47 | SCREW | BSZ20P050FMC |
| | 48 | SCREW | PMS26P025FUC |
| | 49 | WASHER | EBF1008 |
| | 50 | WASHER | EBF1009 |
| | 51 | WASHER | EBF1010 |
| | 52 | WASHER | EBF1011 |
| | 53 | ............... | |
| | 54 | ARM UNIT | EXX1006 |
| | 55 | ARM UNIT | EXX1003 |
| | 56 | R/P HEAD ASSEMBLY | EXX1013 |
| | 57 | ARM | ENC1289 |
| | 58 | HEAD BASE UNIT | EXA1230 |
| | 59 | ............... | |
| NSP | 60 | BRACKET | ENC1284 |
| NSP | 61 | PLATE | ENC1285 |
| NSP | 62 | BRACKET | ENC1289 |
| | 63 | ............... | |
| NSP | 64 | HOLDER | ENV1161 |
| NSP | 65 | HOLDER | ENV1301 |
| NSP | 66 | GEAR | ENV1177 |
| NSP | 67 | R/P HEAD UNIT | EXA1234 |
| NSP | 68 | SCREW | JGZ14P085FNI |
| NSP | 69 | SCREW | JGZ14P040FNI |
| NSP | 70 | CHASSIS UNIT | ............... |

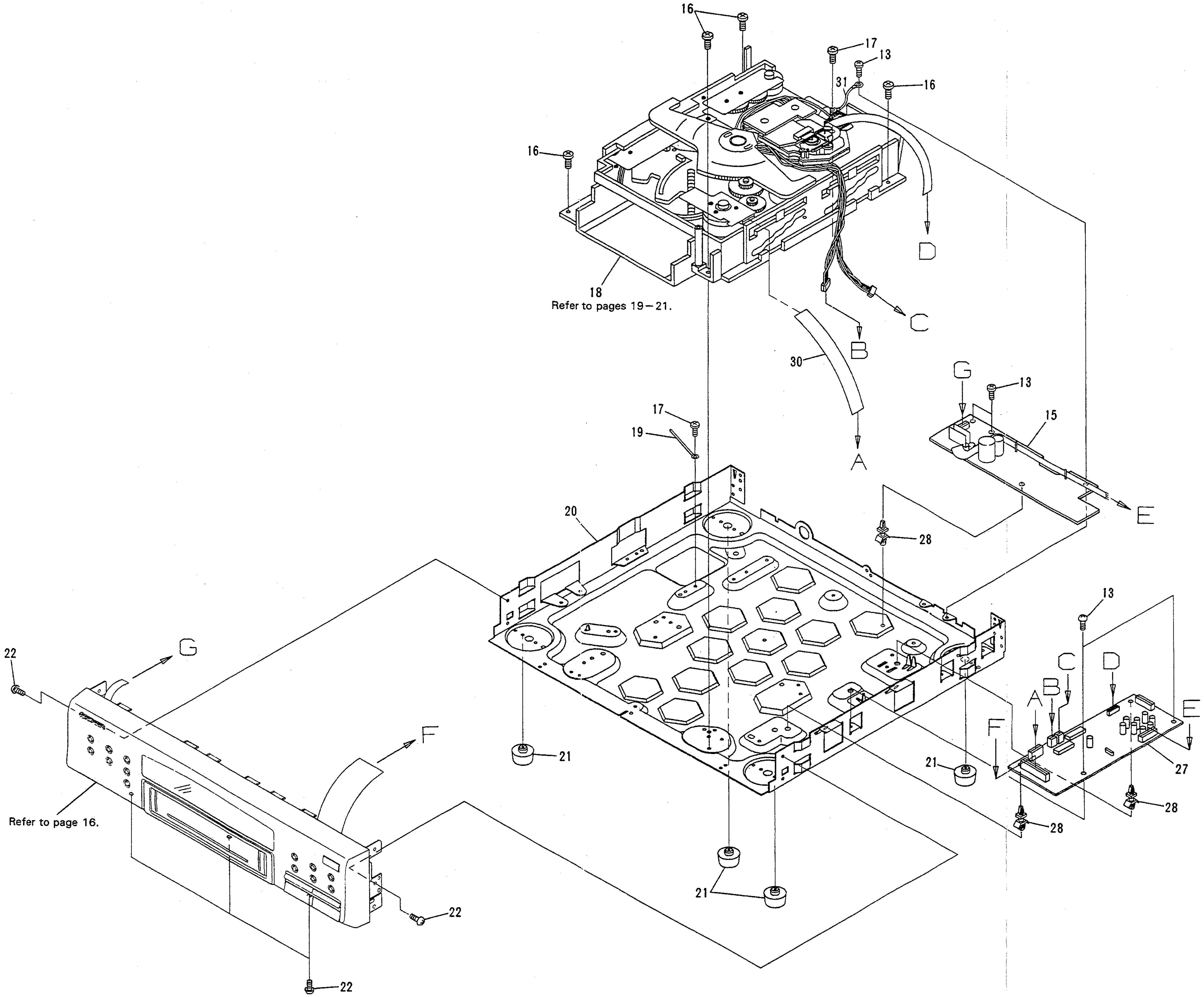
## 2.2 CD BLOCK

### 2.2.1 Multi CD Unit (For XD−J115M)



**Parts list**

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | 1 | FUNCTION PANEL ASSEMBLY | PEA1270 |
| | 2 | NAME PLATE | AAM1047 |
| | 3 | DISPLAY WINDOW | PAM1595 |
| | 4 | DOOR | PNW2267 |
| | 5 | DOOR SPRING | PBH1022 |
| | 6 | ..................... | |
| | 7 | MODE BUTTON | PAC1706 |
| | 8 | ..................... | |
| | 9 | DISPLAY BOARD ASSEMBLY | PWZ2443 |
| | 10 | CONTROL BUTTON | PAC1705 |
| | 11 | 22P F • F • C/30V | PDD1114 |
| | 12 | SCREW | PPZ30P080FMC |
| | 13 | SCREW | BBZ30P060FCC |
| | 14 | ..................... | |
| | 15 | POWER BOARD ASSEMBLY | PWZ2442 |
| | 16 | SCREW | IBZ30P080FCC |
| | 17 | SCREW | PDZ30P050FMC |
| NSP | 18 | MULTI MECHA ASSEMBLY | PXA1469 |
| | 19 | CORD CLAMPER | RNH−184 |
| NSP | 20 | UNDER BASE | PNA1967 |
| | 21 | FOOT ASSEMBLY | PXA1201 |
| | 22 | SCREW | BBZ30P080FCC |
| | 23 | ..................... | |
| | 24 | ..................... | |
| | 25 | ..................... | |
| | 26 | ..................... | |
| | 27 | MOTHER BOARD ASSEMBLY | PWM1728 |
| NSP | 28 | PCB HOLDER | PNW2100 |
| NSP | 29 | FUNCTION PANEL | PNW2327 |
| NSP | 30 | FLAT CABLE | D20PYY0615 |
| NSP | 31 | EARTH LEAD | XDF−503 |


16
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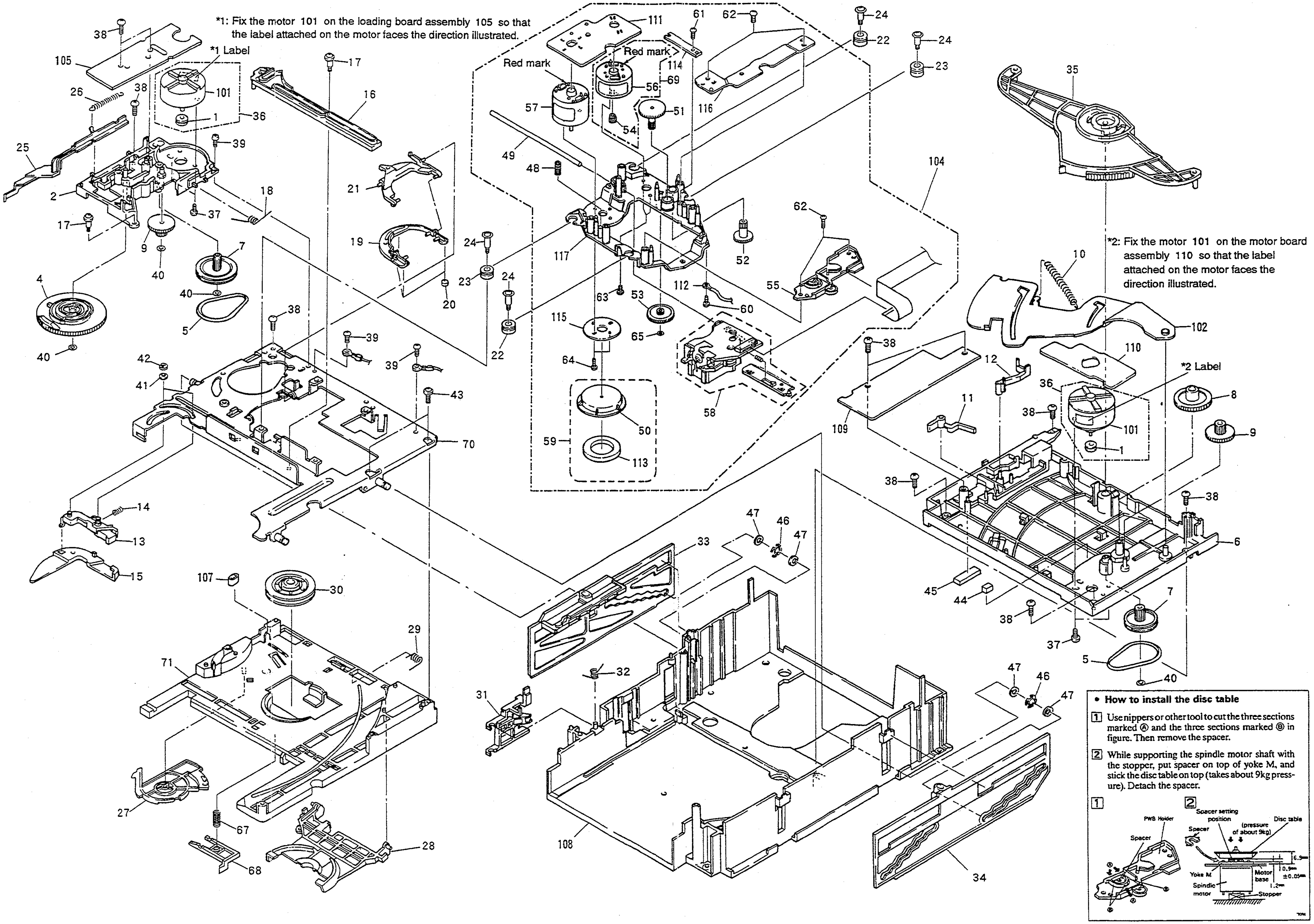
Refer to pages 19－21.

Refer to page 16.

## 2.2.2 Multi Mecha Assembly



*1: Fix the motor 101 on the loading board assembly 105 so that the label attached on the motor faces the direction illustrated.

*2: Fix the motor 101 on the motor board assembly 110 so that the label attached on the motor faces the direction illustrated.

- **How to install the disc table**

1. Use nippers or other tool to cut the three sections marked Ⓐ and the three sections marked Ⓑ in figure. Then remove the spacer.
2. While supporting the spindle motor shaft with the stopper, put spacer on top of yoke M, and stick the disc table on top (takes about 9kg pressure). Detach the spacer.

A
B
C
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105
26
38
*1 Label
101
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16
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20
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39
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14
13
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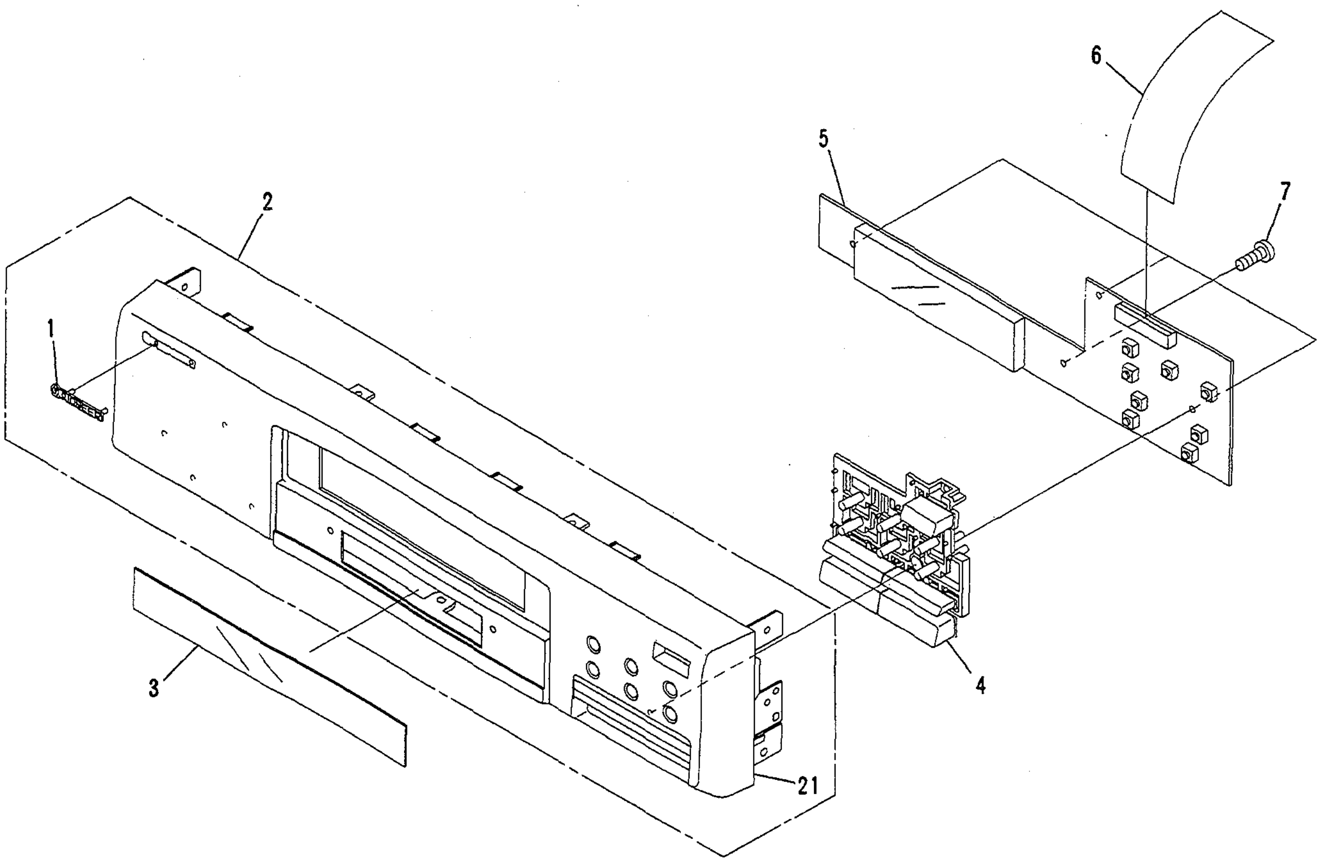
107
30
29
71
27
67
68
28
111
61
62
Red mark
Red mark
114
69
56
57
51
54
116
49
48
117
24
23
24
22
63
53
112
60
115
65
64
50
59
113
58
52
55
62
104
24
22
24
23
33
47
46
47
32
31
108
47
46
47
34
35
10
102
110
*2 Label
12
11
36
38
101
1
8
9
109
38
38
38
6
45
44
38
37
7
5
40
1
2
PWB Holder
Spacer
Ⓐ
Ⓑ
Spacer setting position
Spacer
(pressure of about 9kg)
Disc table
6.9mm
0.9mm
±0.05mm
Yoke M
Motor base
Spindle motor
1.2mm
Stopper

## Parts list

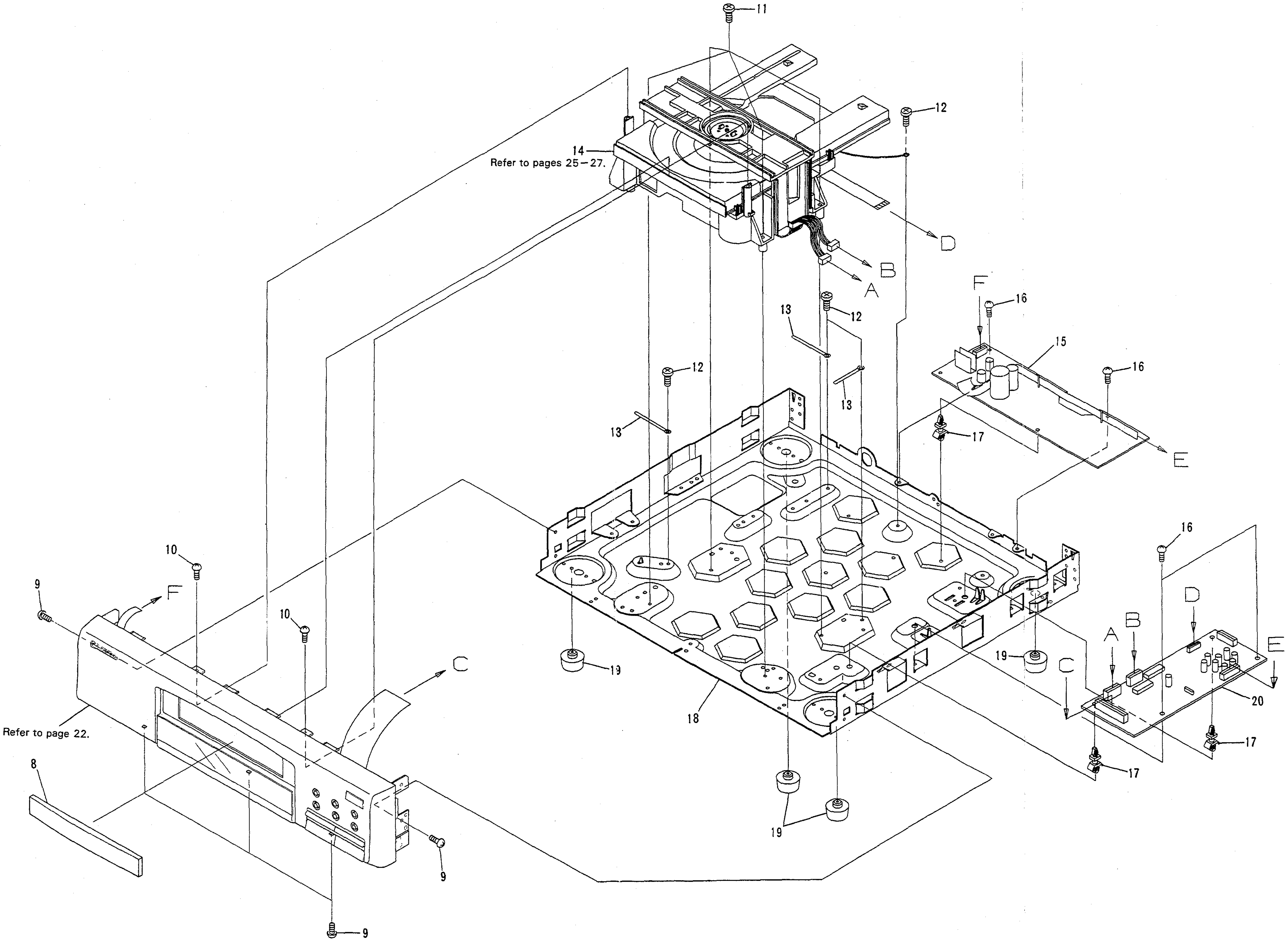
| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | Motor pulley | PNW1634 |
| | 2 | Gear holder | PNW1929 |
| | 3 | • • • • • | |
| | 4 | Cam gear | PNW1923 |
| | 5 | Belt | PEB1138 |
| | 6 | Top guide | PNW2061 |
| | 7 | Gear pulley | PNW1918 |
| | 8 | Gear S | PNW1919 |
| | 9 | Gear L | PNW1920 |
| | 10 | Eject spring | PBH1107 |
| | 11 | Switch lever | PNW1927 |
| | 12 | Seven bar | PNW1931 |
| | 13 | Sub rotary lever | PNW1933 |
| | 14 | Sub rotary lever spring | PBH1111 |
| | 15 | Rotary lever | PNW1932 |
| | 16 | Drive plate | PNW1930 |
| | 17 | Motor screw | PBA-112 |
| | 18 | Holder lever spring | PBH1110 |
| | 19 | Disc holder | PNW1924 |
| | 20 | Cushion A | PED1001 |
| | 21 | Holder lever | PNW1925 |
| | 22 | Float rubber | PEB1014 |
| | 23 | Float rubber | PEB1132 |
| | 24 | Float screw | PBA1073 |
| | 25 | Release lever | PNW1934 |
| | 26 | Release spring | PBH1106 |
| | 27 | Clamper cam | PNW1922 |
| | 28 | Clamper holder | PNW1921 |
| | 29 | Clamper spring | PBH1109 |
| | 30 | Clamper | PNW1857 |
| | 31 | Lock lever | PNW1917 |
| | 32 | Lock spring | PBH1108 |
| | 33 | Stair L | PNW1915 |
| | 34 | Stair R | PNW1916 |
| | 35 | Synchronize lever | PNW1926 |
| | 36 | Motor assembly (LOADING, DISC SELECT) | PEA1130 |
| | 37 | Screw | PMZ26P040FMC |
| | 38 | Screw | PPZ30P080FMC |
| | 39 | Screw | BBZ30P060FMC |
| | 40 | Washer | WT26D047D025 |
| | 41 | Washer | WA31D054D025 |
| | 42 | E ring | Z39-010 |
| | 43 | Screw | IPZ30P080FMC |
| | 44 | Rubber spacer | PEB1238 |
| | 45 | Rubber spacer | PEB1179 |
| | 46 | Silent ring | PBK1093 |
| | 47 | Washer | WA62D130D025 |
| | 48 | Earth spring | PBH1132 |
| | 49 | Guide bar | PLA1094 |
| | 50 | Disc table | PNW1067 |
| | 51 | Gear 1 | PNW2052 |
| | 52 | Gear 2 | PNW2053 |
| | 53 | Gear 3 | PNW2054 |
| | 54 | Pinion gear | PNW2055 |
| | 55 | PWB holder | PNW2057 |
| | 56 | Carriage DC motor / 0.3W | PXM1027 |
| | 57 | D.C. motor assembly (spindle, with oil) | PEA1235 |
| | 58 | Pickup assembly | PEA1285 |
| | 59 | Disc table assembly | PEA1035 |
| | 60 | Screw | BBZ26P060FMC |
| | 61 | Screw | BPZ20P060FMC |
| | 62 | Screw | BPZ26P100FMC |
| | 63 | Screw | JFZ17P025FZK |
| | 64 | Screw | JFZ20P040FMC |
| | 65 | Washer | WT12D032D025 |
| | 66 | • • • • • | |
| | 67 | Stopper spring | PBH1131 |
| | 68 | Stopper | PNW2069 |
| | 69 | D.C. motor assembly (CARRIAGE) | PEA1246 |
| | 70 | Upper chassis | PNB1267 |
| | 71 | Sub chassis | PNW2073 |
| NSP | 101 | Motor | VXM1033 |
| NSP | 102 | Eject lever | PNB1306 |
| | 103 | • • • • • | |
| NSP | 104 | Servo mechanism assembly M | PXA1417 |
| NSP | 105 | Loading board assembly | PWZ2038 |
| | 106 | • • • • • | |
| NSP | 107 | Rubber tube | PEB1171 |
| NSP | 108 | Main chassis | PNW2074 |
| NSP | 109 | Select board assembly | PWZ2533 |
| NSP | 110 | Motor board assembly | PWZ2040 |
| NSP | 111 | Mechanism board assembly | PWX1192 |
| NSP | 112 | Earth lead unit | PDF1074 |
| NSP | 113 | Clamp magnet | PMF1014 |
| NSP | 114 | Gear stopper | PNB1303 |
| NSP | 115 | Yoke M | PNB1312 |
| NSP | 116 | AV angle | PNB1405 |
| | 117 | Carriage base | PNW2058 |

### 2.2.3 Single CD Unit (For XD−J110)



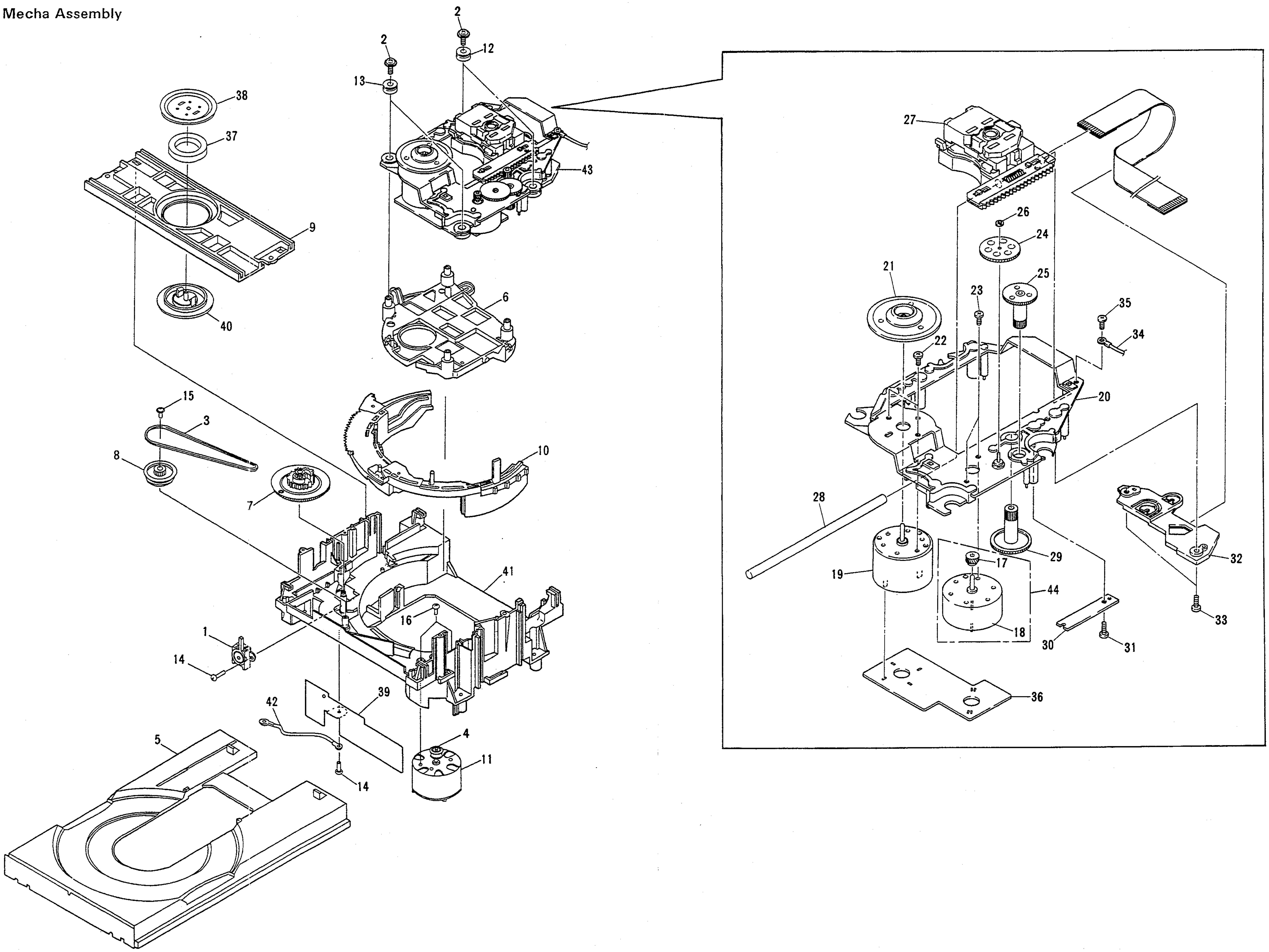
**Parts list**

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | 1 | NAME PLATE | AAM1047 |
| | 2 | FUNCTION PANEL ASSEMBLY | PEA1272 |
| | 3 | DISPLAY WINDOW | PAM1594 |
| | 4 | CONTROL BUTTON | PAC1705 |
| | 5 | DISPLAY BOARD ASSEMBLY | PWZ2433 |
| | 6 | 24P F • F • C/30V | PDD1113 |
| | 7 | SCREW | PPZ30P080FMC |
| | 8 | NAME PLATE | PNW2234 |
| | 9 | SCREW | BBZ30P080FCC |
| | 10 | SCREW | PPZ30P120FMC |
| | 11 | SCREW | BBZ30P160FMC |
| | 12 | SCREW | PDZ30P050FMC |
| | 13 | CORD CLAMPER | RNH−184 |
| NSP | 14 | SINGLE MECHA ASSEMBLY | PXA1495 |
| | 15 | POWER BOARD ASSEMBLY | PWZ2437 |
| | 16 | SCREW | BBZ30P060FCC |
| NSP | 17 | PCB HOLDER | PNW2100 |
| NSP | 18 | UNDER BASE | PNA1967 |
| | 19 | FOOT ASSEMBLY | PXA1201 |
| ⚠ | 20 | MOTHER BOARD ASSEMBLY | PWM1729 |
| NSP | 21 | FUNCTION PANEL | PNW2325 |


Refer to pages 25−27.
D
B
A
F
E
F
C
D
B
A
E
C
Refer to page 22.

A
B
C
D

## 2.2.4 Single Mecha Assembly


2
2
12
13
38
37
43
27
9
26
24
40
6
21
25
23
35
22
34
15
20
3
8
10
7
28
41
29
19
17
32
44
16
1
18
33
14
30
31
39
36
42
4
5
11
14

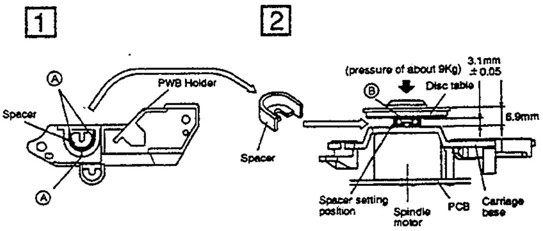
### Parts list

| Mark | No. | Description | Part No. |
|---|---|---|---|
|  | 1 | Lever switch (CLAMP) | DSK1003 |
|  | 2 | Float screw | PBA1048 |
|  | 3 | Rubber belt | PEB1193 |
|  | 4 | Motor pulley | PNW1634 |
|  | 5 | Tray | PNW2290 |
|  | 6 | Float base | PNW2032 |
|  | 7 | Drive gear | PNW2266 |
|  | 8 | Gear pulley | PNW2034 |
|  | 9 | Clamper base | PNW2035 |
|  | 10 | Clamp cam | PNW2036 |
|  | 11 | DC motor/0.75W (LOADING) | PXM1010 |
|  | 12 | Float rubber | PEB1014 |
|  | 13 | Float rubber | PEB1132 |
|  | 14 | Screw | BPZ26P080FMC |
|  | 15 | Screw | Z39 – 018 |
|  | 16 | Screw | PMZ26P040FMC |
|  | 17 | Pinion gear | PNW2055 |
|  | 18 | DC motor (CARRIAGE) | PXM1027 |
|  | 19 | DC motor assembly (SPINDLE, with oil) | PEA1235 |
|  | 20 | Carridge base | PNW2058 |
|  | 21 | Disc table | PNW1068 |
|  | 22 | Screw | JFZ20P030FNI |
|  | 23 | Screw | JFZ17P025FZK |
|  | 24 | Gear 3 | PNW2054 |
|  | 25 | Gear 2 | PNW2053 |
|  | 26 | Washer | WT12D032D025 |
|  | 27 | Pickup assembly | PEA1179 |
|  | 28 | Guide bar | PLA1094 |
|  | 29 | Gear 1 | PNW2052 |
| NSP | 30 | Gear stopper | PNB1303 |
|  | 31 | Screw | BPZ20P060FMC |
|  | 32 | PWB holder | PNW2057 |
|  | 33 | Screw | BPZ26P100FMC |
| NSP | 34 | Earth lead unit | PDF1104 |
|  | 35 | Screw | BBZ26P060FMC |
| NSP | 36 | Mechanism board assembly | PWX1192 |
| NSP | 37 | Clamp magnet | PMF1014 |
| NSP | 38 | Yoke | PNB1216 |
| NSP | 39 | Shield plate | PNB1317 |
| NSP | 40 | Clamper S | PNW1609 |
| NSP | 41 | Loading base | PNW2030 |
| NSP | 42 | Earth lead unit | XDF – 502 |
| NSP | 43 | Servo mechanism assembly | PXA1478 |
|  | 44 | DC motor assembly (CARRIAGE) | PEA1246 |

- How to install the disc table

1. Use nipper or other tool to cut the three sections marked Ⓐ figure 1. Then remove the spacer.

2. While supporting the spindle motor shaft with the stopper, put spacer on top of the motor base (angled so it doesn't touch section Ⓑ),and stick the disc table on top (takes about 9Kg pressure). Take off the spacer.

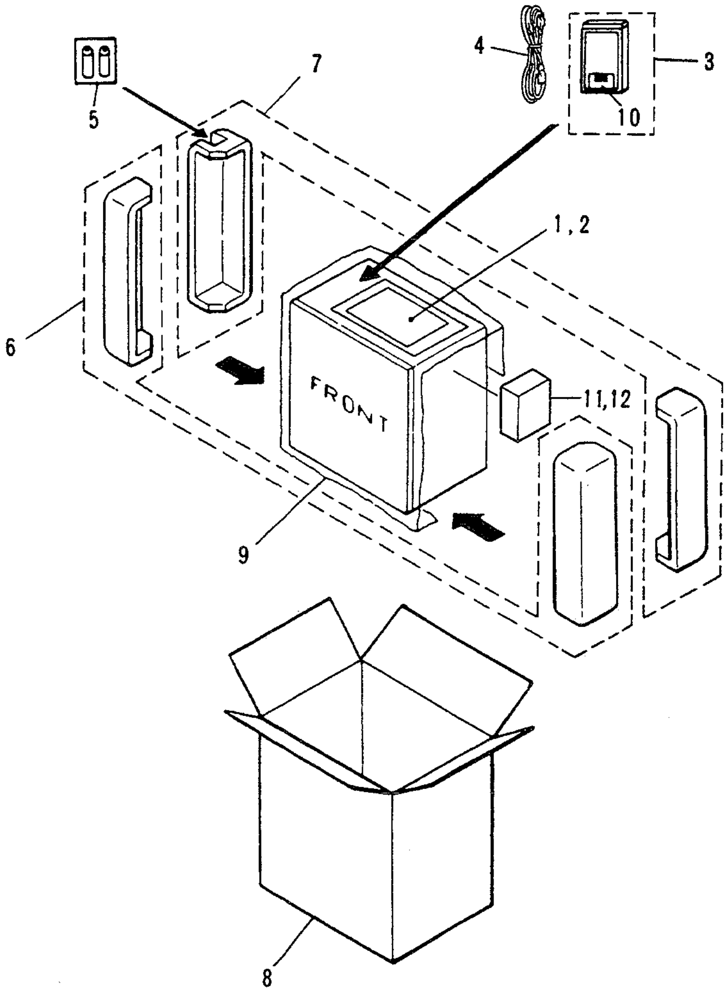


## 2.3 PACKING

### Parts list

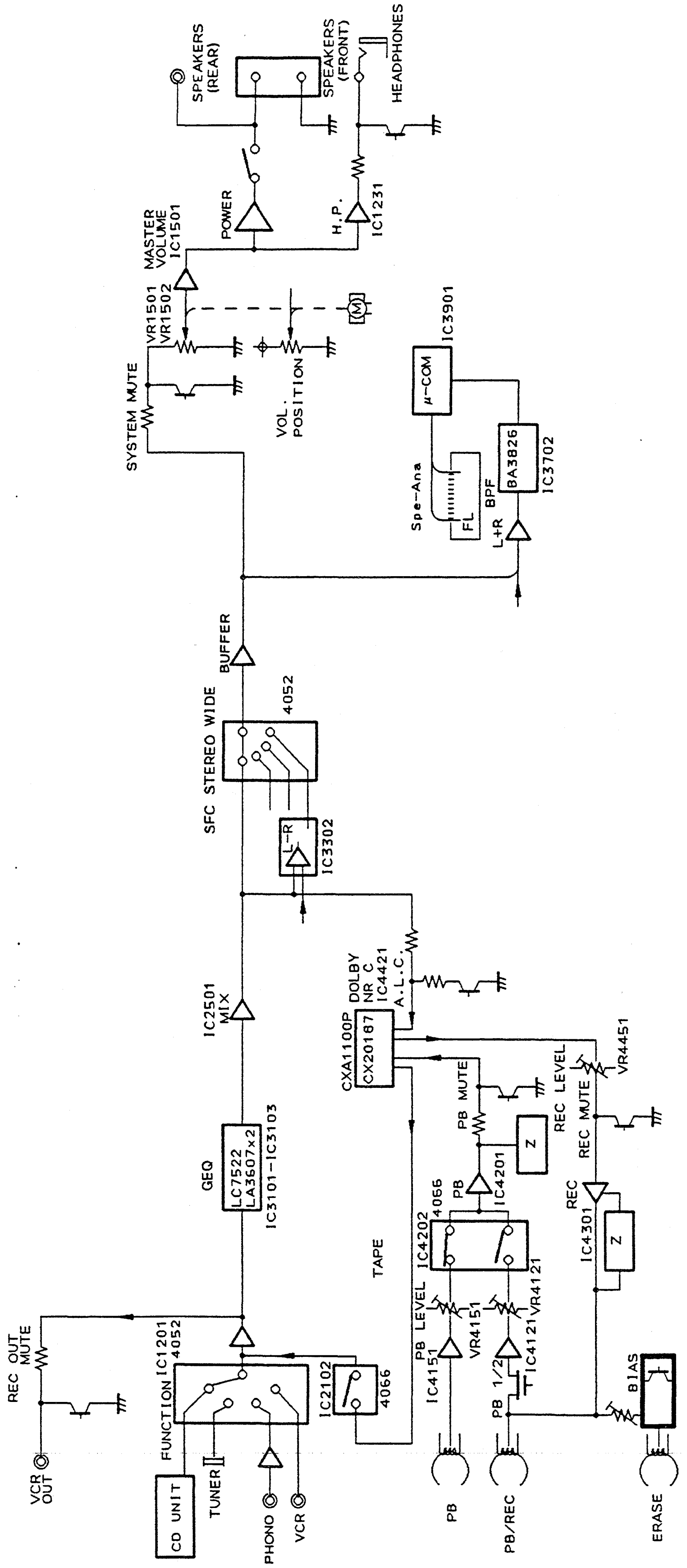
| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | 1 | OPERATING INSTRUCTIONS (English, French, German, Italian) (For XD−J115M) | ARE1266 |
| | | OPERATING INSTRUCTIONS (English, French, German, Italian) (For XD−J110) | ARE1264 |
| | 2 | OPERATING INSTRUCTIONS (Dutch, Swedish, Spanish, Portuguese) (For XD−J115M) | ARE1267 |
| | | OPERATING INSTRUCTIONS (Dutch, Swedish, Spanish, Portuguese) (For XD−J110) | ARE1265 |
| | 3 | REMOTE CONTROL UNIT (CU−DC030) | AXD1337 |
| | 4 | AC POWER CORD | ADG1127 |
| NSP | 5 | BATTERY (R03, AAA) | AEX−021 |

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | 6 | FRONT PAD L, R | AHA1559 |
| | 7 | REAR PAD L, R | AHA1560 |
| | 8 | PACKING CASE (For XD−J115M) | AHD2507 |
| | | PACKING CASE (For XD−J110) | AHD2506 |
| NSP | 9 | PACKING SHEET | AHG1151 |
| | 10 | BATTERY COVER | AZN2236 |
| | 11 | PP CASE (XD−J115M only) | PYY1169 |
| | 12 | MAGAZINE ASSEMBLY (XD−J115M only) | PXA1507 |



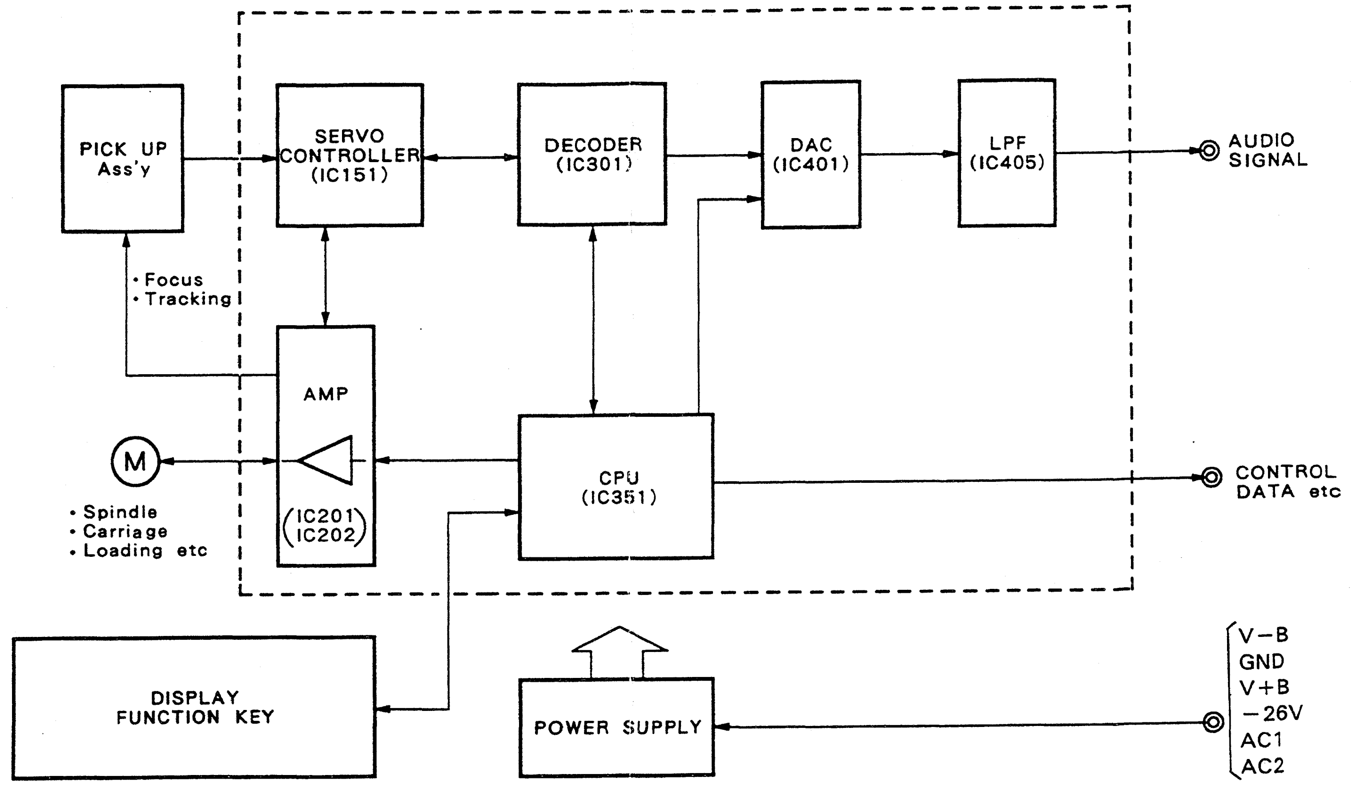
# 3. BLOCK DIAGRAM

## 3.1 DECK AMP BLOCK (For XD−J115M and XD−J110)


SPEAKERS (REAR)
SPEAKERS (FRONT)
HEADPHONES
POWER
H.P.
IC1231
MASTER VOLUME IC1501
VR1501
VR1502
M
SYSTEM MUTE
VOL. POSITION
μ-COM
IC3901
Spe-Ana
FL
BPF
BA3826
IC3702
L+R
BUFFER
SFC STEREO WIDE
4052
L-R
IC3302
IC2501
MIX
DOLBY NR C
IC4421
A.L.C.
CXA1100P
CX20187
PB MUTE
REC LEVEL
VR4451
REC MUTE
Z
PB
IC4201
4066
IC4202
TAPE
REC
IC4301
GEQ
LC7522
LA3607×2
IC3101-IC3103
REC OUT MUTE
IC1201
4052
FUNCTION
IC2102
4066
PB LEVEL
VR4151
VR4121
IC4151
IC4121
PB 1/2
BIAS
VCR OUT
CD UNIT
TUNER
PHONO
VCR
PB
PB/REC
ERASE

## 3.2 CD BLOCK

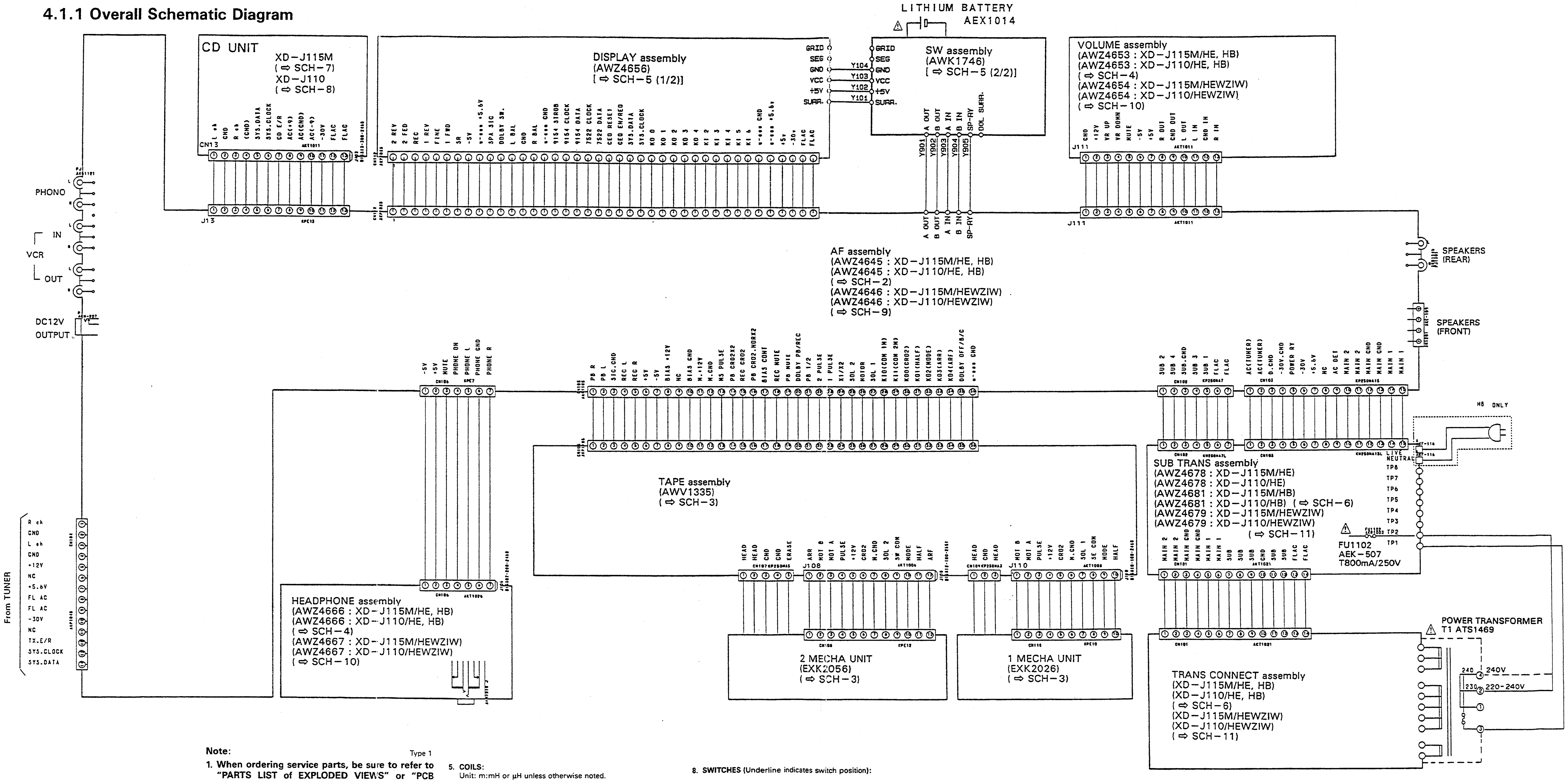
● **Multi CD Unit (For XD−J115M) and Single CD Unit (For XD−J110)**


PICK UP Ass'y
SERVO CONTROLLER (IC151)
DECODER (IC301)
DAC (IC401)
LPF (IC405)
AUDIO SIGNAL
• Focus
• Tracking
AMP
(IC201 IC202)
M
• Spindle
• Carriage
• Loading etc
CPU (IC351)
CONTROL DATA etc
DISPLAY FUNCTION KEY
POWER SUPPLY
V−B
GND
V+B
−26V
AC1
AC2

# 4. SCHEMATIC AND PCB CONNECTION DIAGRAMS

## 4.1 DECK AMP BLOCK
(For XD−J115M/HE, HB and XD−J110/HE, HB)

### 4.1.1 Overall Schematic Diagram


LITHIUM BATTERY
AEX1014
CD UNIT
XD−J115M
(⇨ SCH−7)
XD−J110
(⇨ SCH−8)
CN13
J13
DISPLAY assembly
(AWZ4656)
[⇨ SCH−5 (1/2)]
GRID
SEG
GND
VCC
+5V
SURR.
Y104
Y103
Y102
Y101
SW assembly
(AWK1746)
[⇨ SCH−5 (2/2)]
A OUT
B OUT
A IN
B IN
SP-RY
DOL SURR.
Y901
Y902
Y903
Y904
Y905
VOLUME assembly
(AWZ4653 : XD−J115M/HE, HB)
(AWZ4653 : XD−J110/HE, HB)
(⇨ SCH−4)
(AWZ4654 : XD−J115M/HEWZIW)
(AWZ4654 : XD−J110/HEWZIW)
(⇨ SCH−10)
J111
PHONO
IN
VCR
OUT
DC12V
OUTPUT
AF assembly
(AWZ4645 : XD−J115M/HE, HB)
(AWZ4645 : XD−J110/HE, HB)
(⇨ SCH−2)
(AWZ4646 : XD−J115M/HEWZIW)
(AWZ4646 : XD−J110/HEWZIW)
(⇨ SCH−9)
SPEAKERS
(REAR)
SPEAKERS
(FRONT)
HB ONLY
LIVE
NEUTRAL
TAPE assembly
(AWV1335)
(⇨ SCH−3)
SUB TRANS assembly
(AWZ4678 : XD−J115M/HE)
(AWZ4678 : XD−J110/HE)
(AWZ4681 : XD−J115M/HB)
(AWZ4681 : XD−J110/HB) (⇨ SCH−6)
(AWZ4679 : XD−J115M/HEWZIW)
(AWZ4679 : XD−J110/HEWZIW)
(⇨ SCH−11)
TP8
TP7
TP6
TP5
TP4
TP3
TP2
TP1
FU1102
AEK−507
T800mA/250V
From TUNER
R ch
GND
L ch
GND
+12V
NC
+5.6V
FL AC
FL AC
−30V
NC
TX.E/R
SYS.CLOCK
SYS.DATA
J108
J110
HEADPHONE assembly
(AWZ4666 : XD−J115M/HE, HB)
(AWZ4666 : XD−J110/HE, HB)
(⇨ SCH−4)
(AWZ4667 : XD−J115M/HEWZIW)
(AWZ4667 : XD−J110/HEWZIW)
(⇨ SCH−10)
2 MECHA UNIT
(EXK2056)
(⇨ SCH−3)
1 MECHA UNIT
(EXK2026)
(⇨ SCH−3)
POWER TRANSFORMER
T1 ATS1469
TRANS CONNECT assembly
(XD−J115M/HE, HB)
(XD−J110/HE, HB)
(⇨ SCH−6)
(XD−J115M/HEWZIW)
(XD−J110/HEWZIW)
(⇨ SCH−11)
240V
220−240V

**Note:**

Type 1

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or µF unless otherwise noted.
   Ratings: capacitor (µF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or µH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   V : Signal voltage at rated output.
   ⟶ : DC voltage (V) at no input signal unless otherwise noted. Value in (  ) is DC voltage at rated power.
   ⇦ mA or − mA : DC current at no input signal unless otherwise noted.
7. **OTHERS:**
   - ➡ : Signal route.
   - ⊘ : Adjusting point.
   - ▼ : Measurement point.
   - The △ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SWITCHES** (Underline indicates switch position):

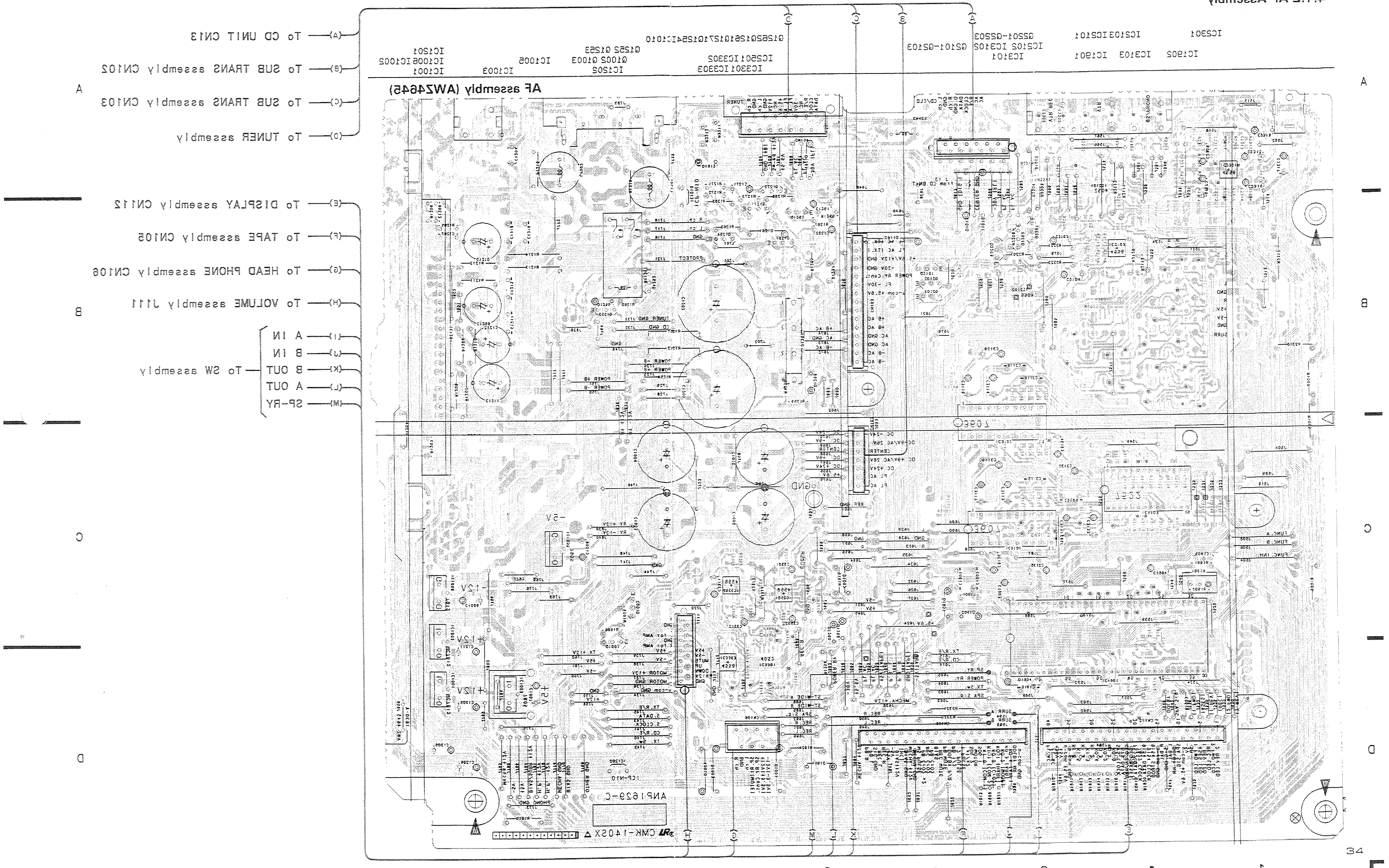
DISPLAY assembly

| | | | |
|---|---|---|---|
| S1801 | AI BGM | S1819 | ASES |
| S1802 | FUNCTION | S1820 | 2 REC PAUSE |
| S1804 | AI MEMORY | S1901 | DOLBY ON/OFF |
| S1805 | POWER | S3801 | GEQ FREQ UP |
| S1806 | 1 REV | S3802 | GEQ LEVEL DOWN |
| S1807 | 1 PLAY | S3806 | SURROUND & WIDE |
| S1808 | 1 STOP | S3807 | GEQ LEVEL UP |
| S1809 | 2 REW | S3808 | GEQ MODE |
| S1810 | 2 FF | S3809 | SOUND SELECTOR |
| S1811 | 1 REW | S3810 | PRESET/PGM |
| S1812 | 1 FF | S3811 | GEQ ON/OFF |
| S1813 | 2 STOP | S3813 | SFC MOVIE/A |
| S1814 | 2 REV | S3814 | SFC DISCO/B |
| S1815 | 2 PLAY | S3815 | SFC HALL/C |
| S1816 | COPY | S3816 | SFC MEMO |
| S1818 | 2 REC MUTE | S3817 | SFC CLEAR |

9. **For SCH−□ on the schematic diagram**
   - SCH−□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)

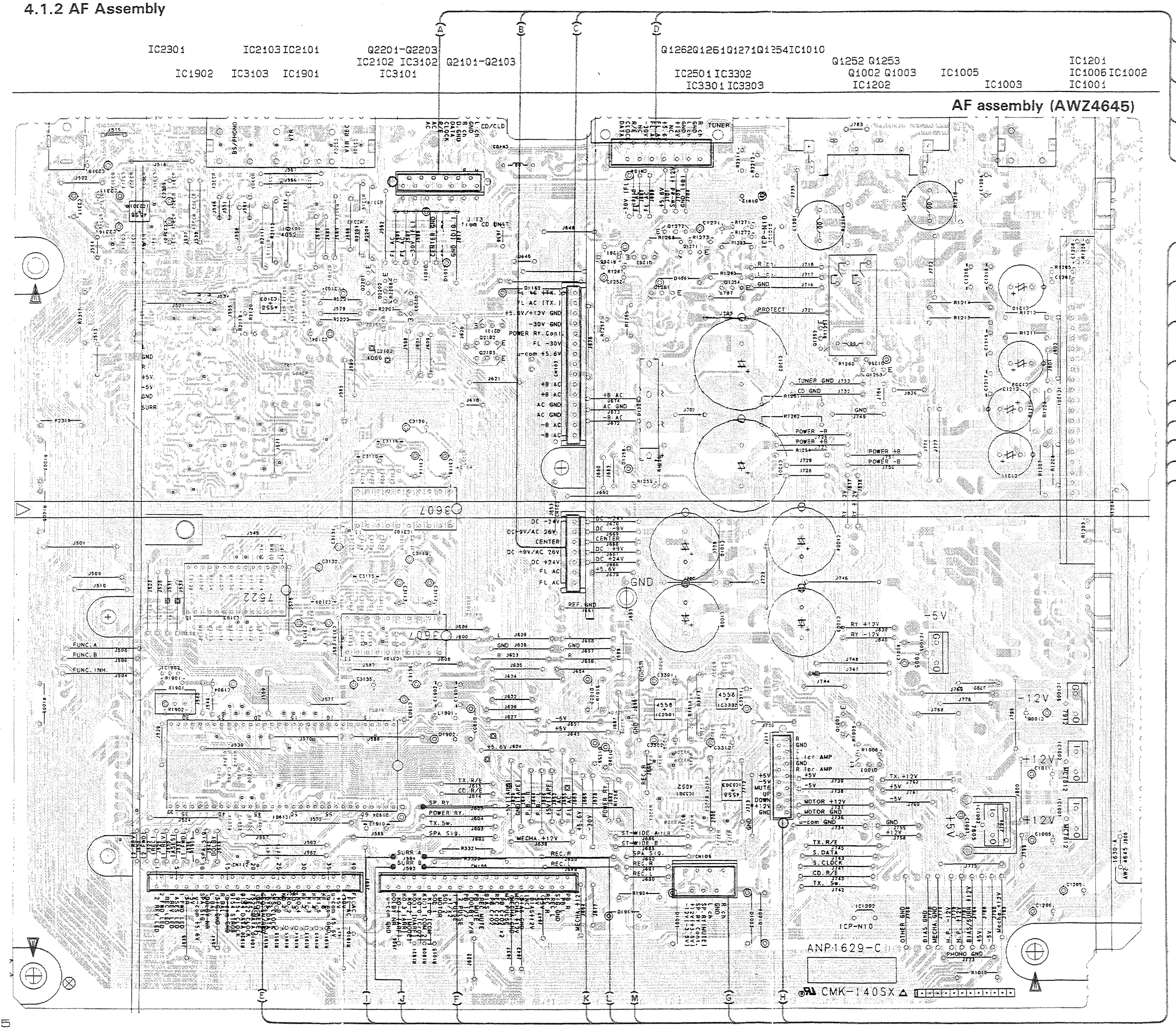
## 4.1.2 AF Assembly

This PCB connection diagram is viwed from the foil side.


To CD UNIT CN13
To SUB TRANS assembly CN102
To SUB TRANS assembly CN103
To TUNER assembly
To DISPLAY assembly CN112
To TAPE assembly CN105
To HEAD PHONE assembly CN106
To VOLUME assembly J111
To SW assembly
A IN
B IN
B OUT
A OUT
SP-RY
AF assembly (AWZ4645)
ANP1629-C
CMK-1405X
IC1001
IC1006 IC1002
IC1201
IC1003
IC1005
IC1202
Q1002 Q1003
Q1252 Q1253
IC3301 IC3303
IC2501 IC3302
Q1262 Q1261 Q1257 Q1254 IC1010
Q2101-Q2103
IC3101
IC2102 IC3102
Q2201-Q2203
IC1901 IC3103 IC1902
IC2101 IC2103
IC2301
GND
-5V
+5V
+12V
-12V

## 4.1.2 AF Assembly

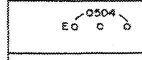
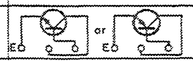
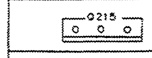
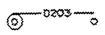
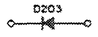
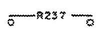
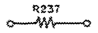
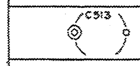
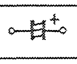
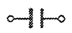
This PCB connection diagram is viewd from the parts mounted side.


IC2301
IC1902
IC2103 IC2101
IC3103 IC1901
Q2201–Q2203
IC2102 IC3102 Q2101–Q2103
IC3101
Q1262 Q1261 Q1271 Q1254 IC1010
IC2501 IC3302
IC3301 IC3303
Q1252 Q1253
Q1002 Q1003
IC1202
IC1005
IC1003
IC1201
IC1006 IC1002
IC1001
AF assembly (AWZ4645)
A
B
C
D
E
I
J
H
K
L
M
G
H
ANP1629-C
CMK-140SX

(A) To CD UNIT CN13
(B) To SUB TRANS assembly CN102
(C) To SUB TRANS assembly CN103
(D) To TUNER assembly
(E) To DISPLAY assembly CN112
(F) To TAPE assembly CN105
(G) To HEAD PHONE assembly CN106
(H) To VOLUME assembly J111
(I) A IN
(J) B IN
(K) B OUT
(L) A OUT
(M) SP-RY
To SW assembly

NOTE

1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

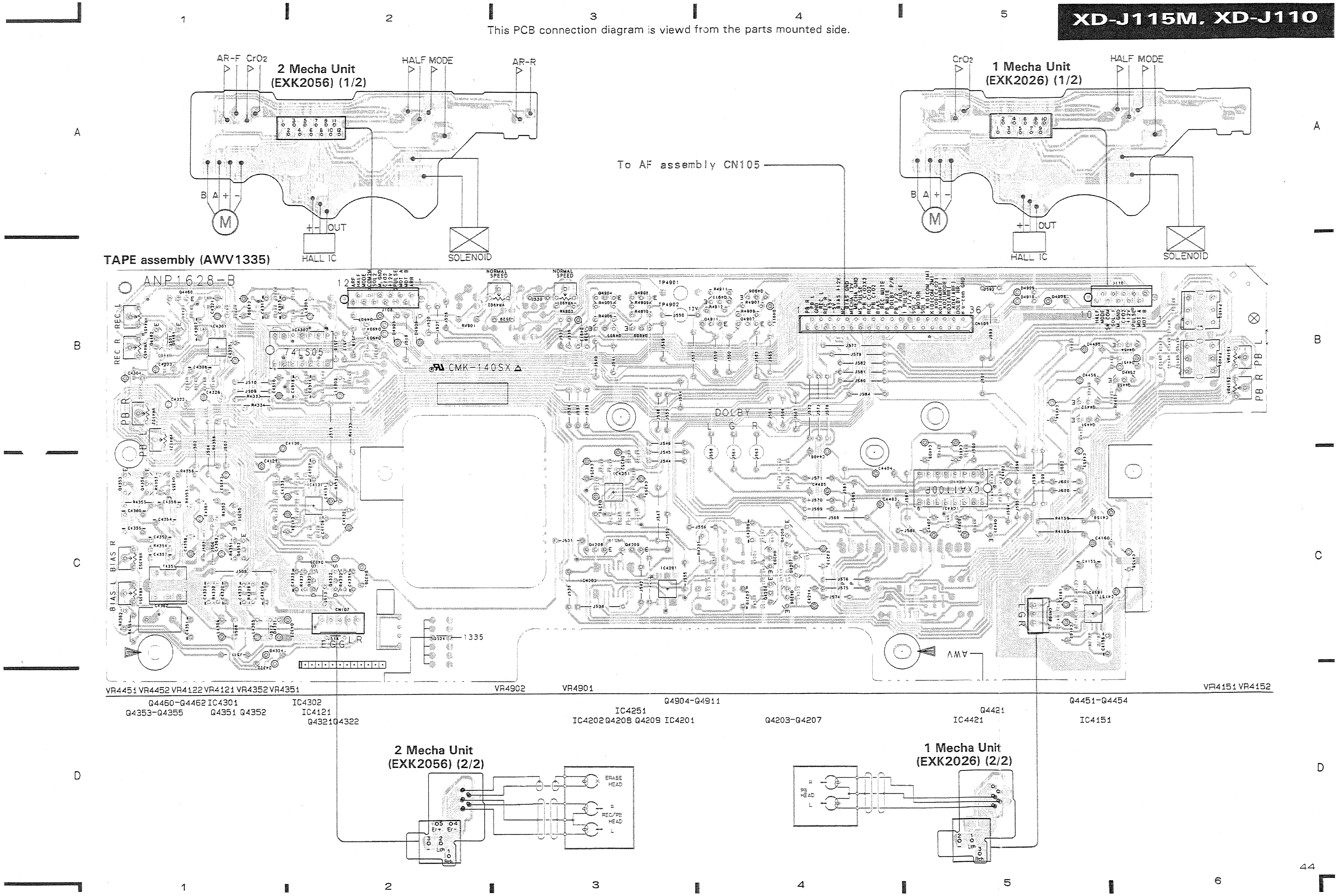
| P.C.B. pattern diagram indication | Corresponding part symbol | Part Name |
|---|---|---|
|  |  | Transistor |
|  | | Radiator type transistor |
|  |  | Diode |
|  |  | Resistor |
|  |  | Capacitor (Polarized) |
| |  | Capacitor (Non-polarized) |

Others

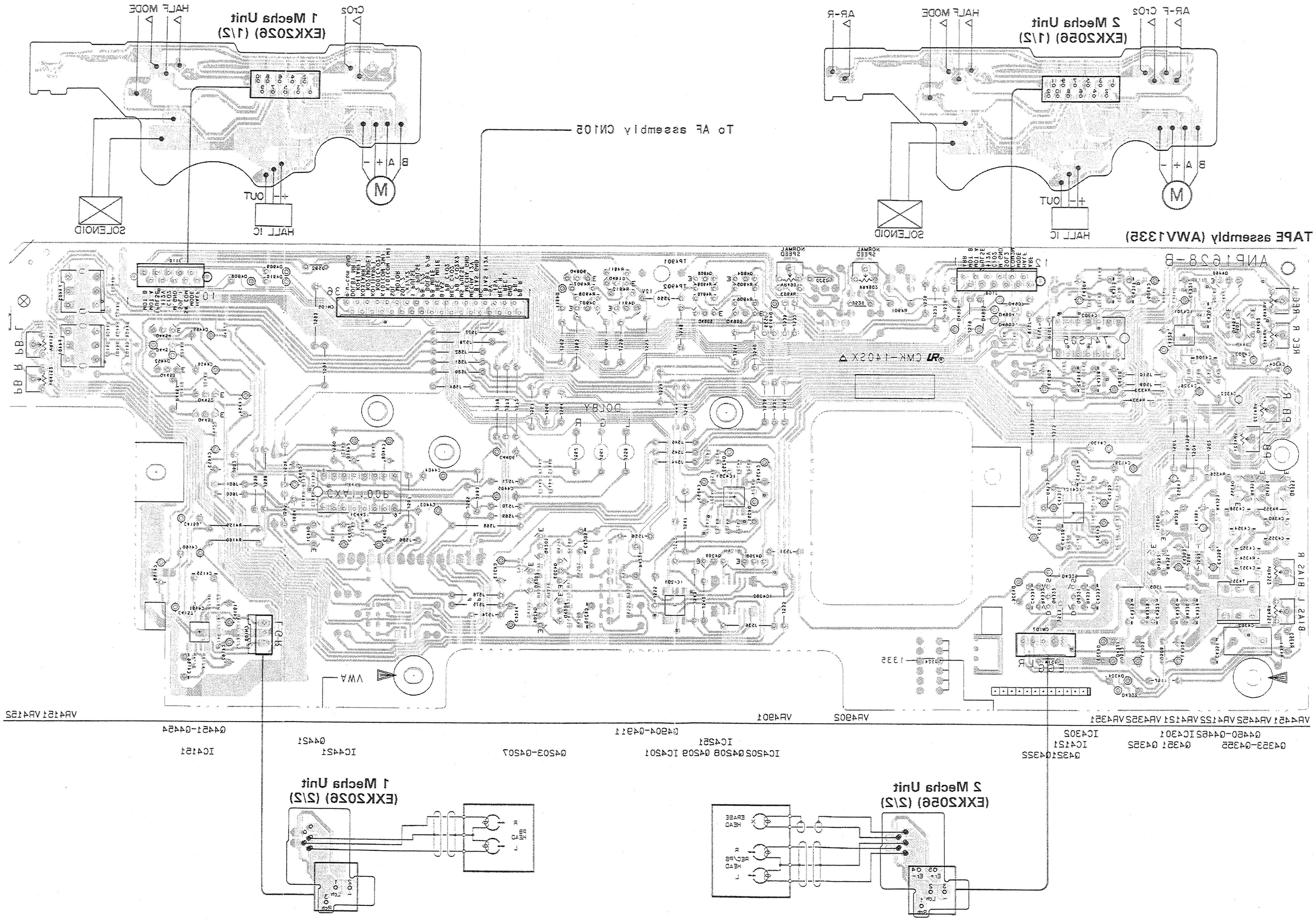
| P.C.B. pattern diagram indication | Part Name |
|---|---|
| IC | IC |
| S | Switch |
| RY | Relay |
| L | Coil |
| F | Filter |
| VR | Variable resistor or Semi-fixed resistor |

3. The capacitor terminal marked with ◎ (double circles) shows negative terminal.
4. The diode terminal marked with ◎ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

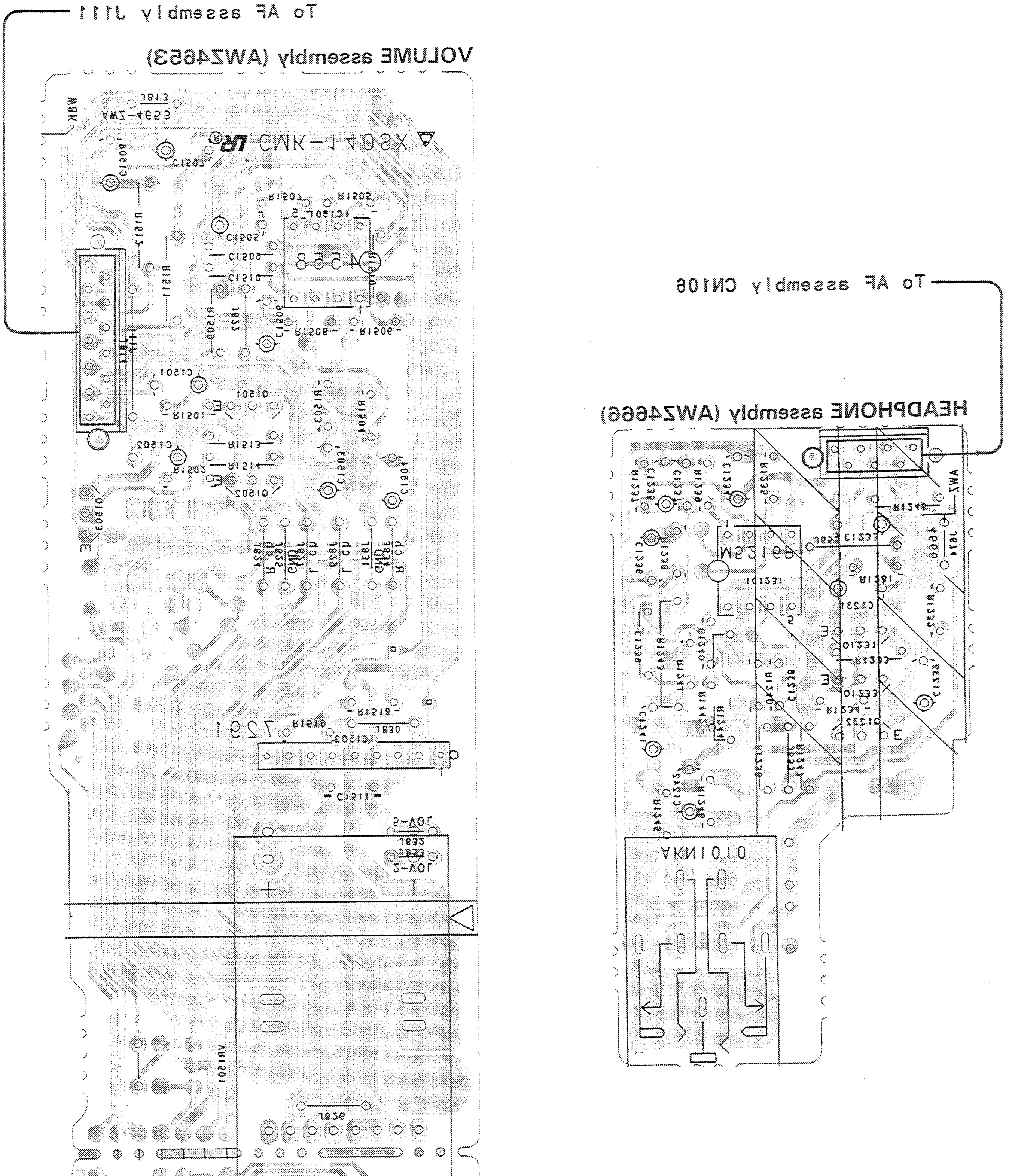
This PCB connection diagram is viewd from the parts mounted side.


1
2
3
4
5
6
A
B
C
D
2 Mecha Unit
(EXK2056) (1/2)
AR-F
CrO2
HALF
MODE
AR-R
B
A
+
-
M
+
-
OUT
HALL IC
SOLENOID
To AF assembly CN105
1 Mecha Unit
(EXK2026) (1/2)
CrO2
HALF
MODE
B
A
+
-
M
+
-
OUT
HALL IC
SOLENOID
TAPE assembly (AWV1335)
ANP1628-B
NORMAL SPEED
NORMAL SPEED
74LS05
CMK-140SX
DOLBY
L
G
R
CXA1100P
REC L
REC R
PB R
PB L
BIAS R
BIAS L
PB L
PB R
L G R
E G L R
1335
AWV
TP4901
TP4902
12V
12
36
10
VR4451 VR4452 VR4122 VR4121 VR4352 VR4351
VR4902
VR4901
VR4151 VR4152
Q4460-Q4462 IC4301
Q4353-Q4355
Q4351 Q4352
IC4302
IC4121
Q4321 Q4322
IC4251
IC4202 Q4208 Q4209 IC4201
Q4904-Q4911
Q4203-Q4207
Q4421
IC4421
Q4451-Q4454
IC4151
2 Mecha Unit
(EXK2056) (2/2)
ERASE HEAD
R
REC/PB HEAD
L
Er+
Er-
Lch
Rch
1 Mecha Unit
(EXK2026) (2/2)
R
PB HEAD
L
Lch
Rch

This PCB connection diagram is viwed from the foil side.


1 Mecha Unit
(EXK2026) (1/2)
HALF
MODE
CrO2
SOLENOID
HALL IC
OUT
M
B
A
To AF assembly CN105
2 Mecha Unit
(EXK2056) (1/2)
AR-R
AR-F
TAPE assembly (AWV1335)
ANP1628-B
NORMAL SPEED
DOLBY
CMK-1405X
REC R
REC L
PB R
PB L
BIAS R
BIAS L
AWA
1335
VR4151 VR4152
VR4901
VR4902
VR4451 VR4452 VR4122 VR4121 VR4352 VR4351
Q4451–Q4454
Q4421
IC4421
IC4151
Q4203–Q4207
Q4904–Q4911
IC4251
IC4202 Q4208 Q4209 IC4201
IC4302
IC4121
Q4321 Q4322
Q4460–Q4462 IC4301
Q4351 Q4352
Q4353–Q4355
1 Mecha Unit
(EXK2026) (2/2)
2 Mecha Unit
(EXK2056) (2/2)
ERASE HEAD
REC/PB HEAD
R
L
A
B
C
D
1
2
3
4
5
6

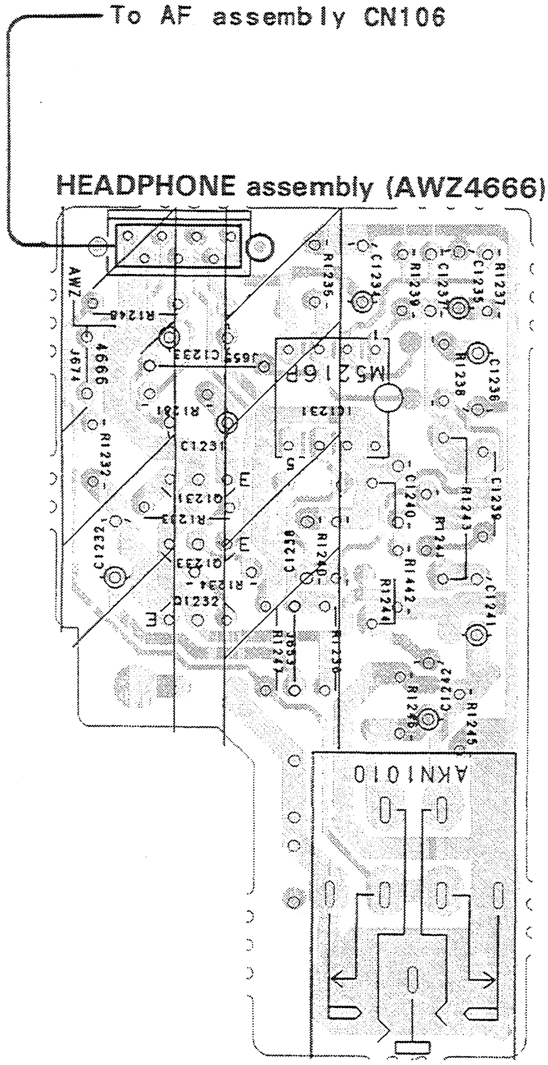
### 4.1.4 HEADPHONE Assembly and VOLUME Assembly


To AF assembly J111
VOLUME assembly (AWZ4653)
To AF assembly CN106
HEADPHONE assembly (AWZ4666)
AKN1010

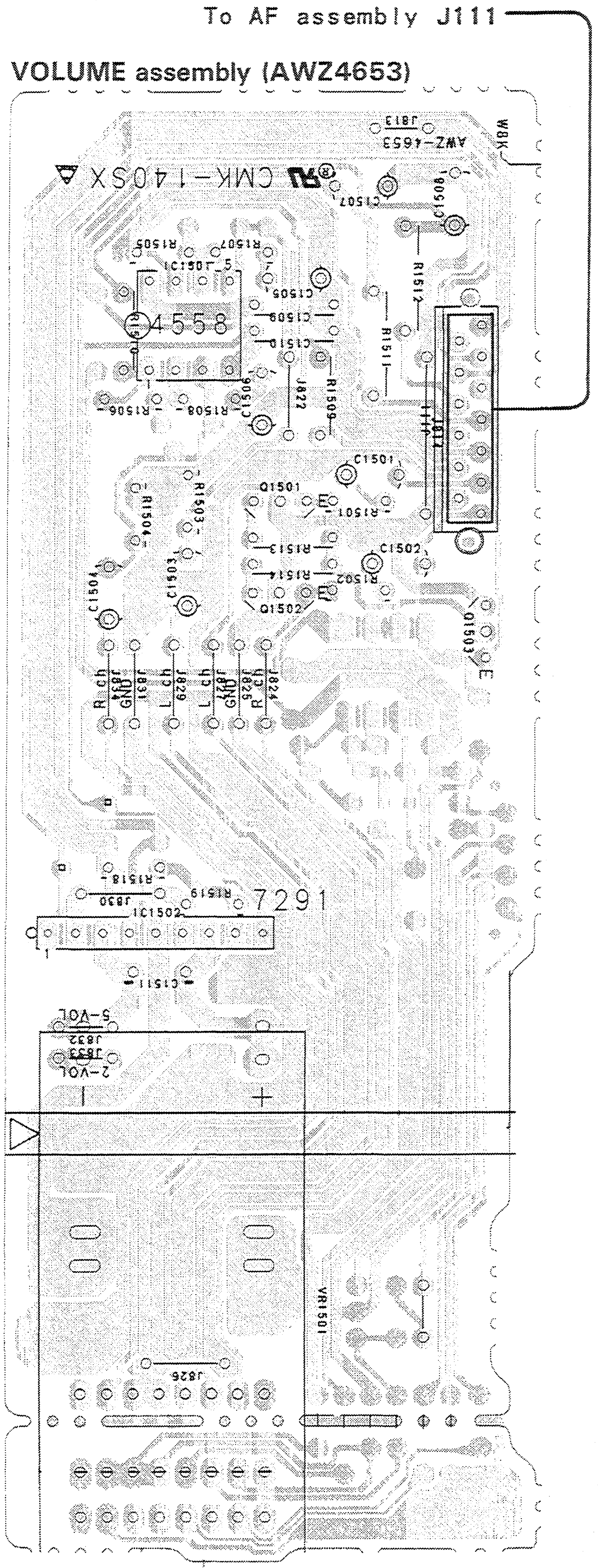
This PCB connection diagram is viwed from the foil side.

### 4.1.4 HEADPHONE Assembly and VOLUME Assembly

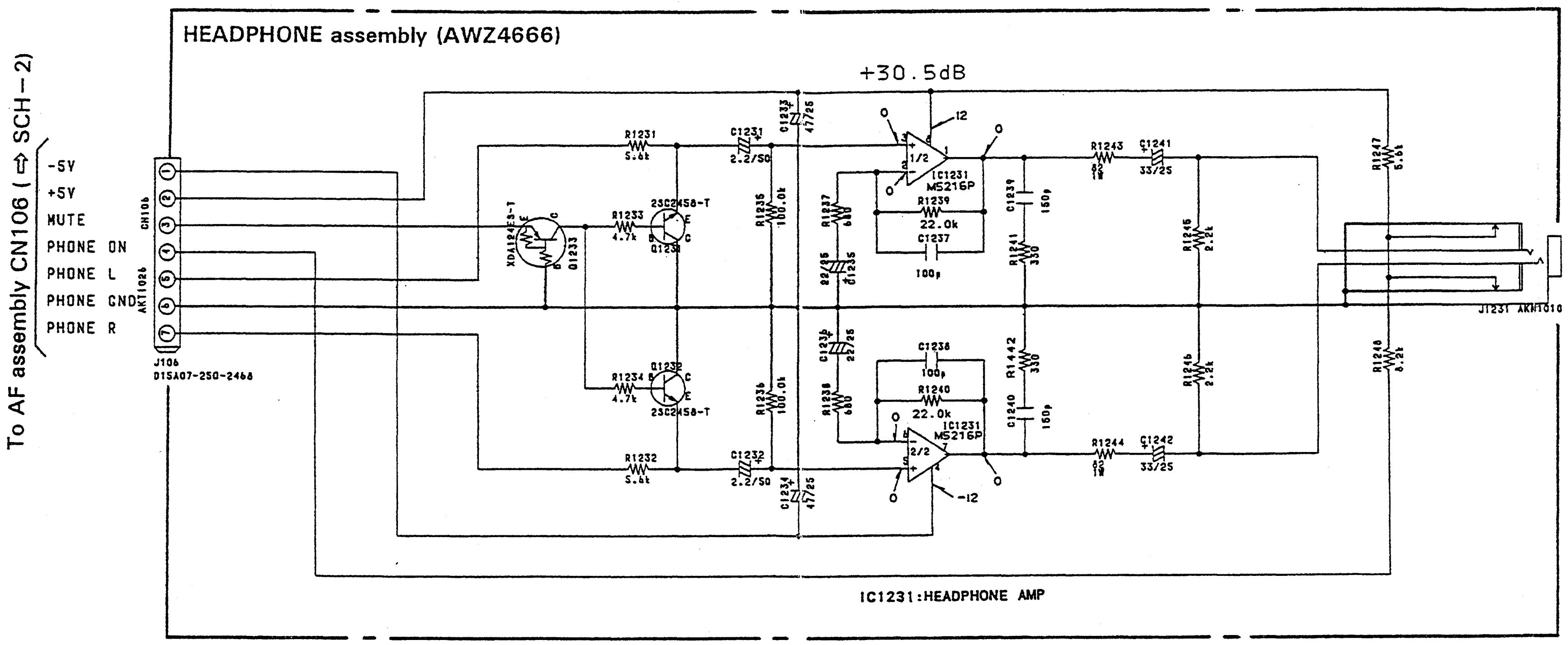
**HEADPHONE assembly (AWZ4666)**

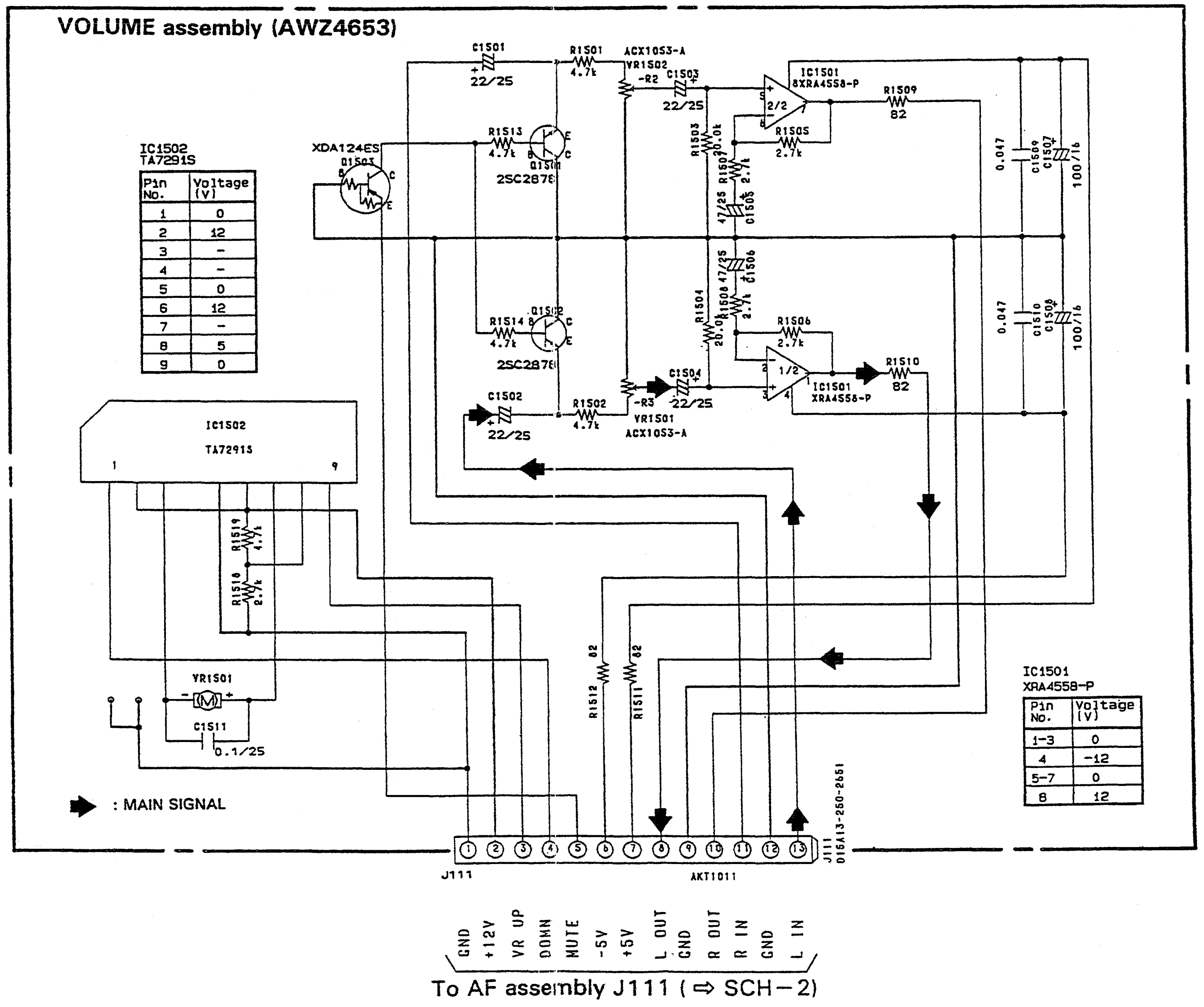

To AF assembly CN106
AWZ 4666
J674
R1248
R1235
R1236
C1234
R1239
C1237
C1235
R1237
J655
C1233
M5216B
IC1231
R1238
C1236
R1281
R1232
C1231
Q1231
R1233
Q1233
R1234
Q1232
C1232
C1238
R1240
C1240
R1243
C1239
R1241
R1442
R1244
C1241
J653
R1247
R1230
C1242
R1246
R1245
E
AKN1010

**VOLUME assembly (AWZ4653)**


To AF assembly J111
W8K
AWZ-4653
J813
CMK-140SX
C1507
C1508
R1505
R1507
IC1501
4558
R1512
C1505
C1509
C1510
R1511
R1506
R1508
C1506
J822
R1509
J812
C1501
R1503
Q1501
R1504
R1501
R1513
C1502
C1503
R1514
R1502
C1504
Q1502
Q1503
R ch
GND
L ch
J831
J829
J828
J825
J824
R1518
R1519
J830
IC1502
7291
C1511
S-VOL
J832
J833
2-VOL
VR1501
J826
E

This PCB connection diagram is viewd from the parts mounted side.


HEADPHONE assembly (AWZ4666)
To AF assembly CN106 (⇨ SCH-2)
-5V
+5V
MUTE
PHONE ON
PHONE L
PHONE GND
PHONE R
CN106
AKT1026
J106
D15A07-250-2468
+30.5dB
R1231 5.6k
C1231 2.2/50
C1233 47/25
R1233 4.7k
2SC2458-T
Q1231
XDA124ES-T
Q1233
R1235 100.0k
R1237 680
22/25 C1235
IC1231 M5216P
R1239 22.0k
C1237 100p
C1239 150p
R1241 330
R1243 82 1W
C1241 33/25
R1245 2.2k
R1247 6.8k
J1231 AKN1010
R1234 4.7k
Q1232
2SC2458-T
R1236 100.0k
C1236 22/25
R1238 680
C1238 100p
R1240 22.0k
IC1231 M5216P
C1240 150p
R1242 330
R1244 82 1W
C1242 33/25
R1246 2.2k
R1248 6.8k
R1232 5.6k
C1232 2.2/50
C1234 47/25
1/2
2/2
12
-12
IC1231:HEADPHONE AMP


VOLUME assembly (AWZ4653)
C1501 22/25
R1501 4.7k
ACX1053-A VR1502 -R2
C1503 22/25
IC1501 XRA4558-P
2/2
R1509 82
R1513 4.7k
Q1511
2SC2878
XDA124ES Q1503
R1503 20.0k
R1505 2.7k
R1507 2.7k
C1505 47/25
C1506 47/25
R1508 2.7k
R1504 20.0k
0.047 C1509
C1507 100/16
0.047 C1510
C1508 100/16
R1514 4.7k
Q1512
2SC2878
R1506 2.7k
1/2
IC1501 XRA4558-P
R1510 82
C1504 22/25
-R3
VR1501 ACX1053-A
C1502 22/25
R1502 4.7k
IC1502 TA7291S
1
9
R1519 4.7k
R1518 2.7k
VR1501
C1511 0.1/25
R1512 82
R1511 82
J111
AKT1011
D16A13-250-2651
GND
+12V
VR UP
DOWN
MUTE
-5V
+5V
L OUT
GND
R OUT
R IN
GND
L IN
To AF assembly J111 (⇨ SCH-2)

IC1502
TA7291S

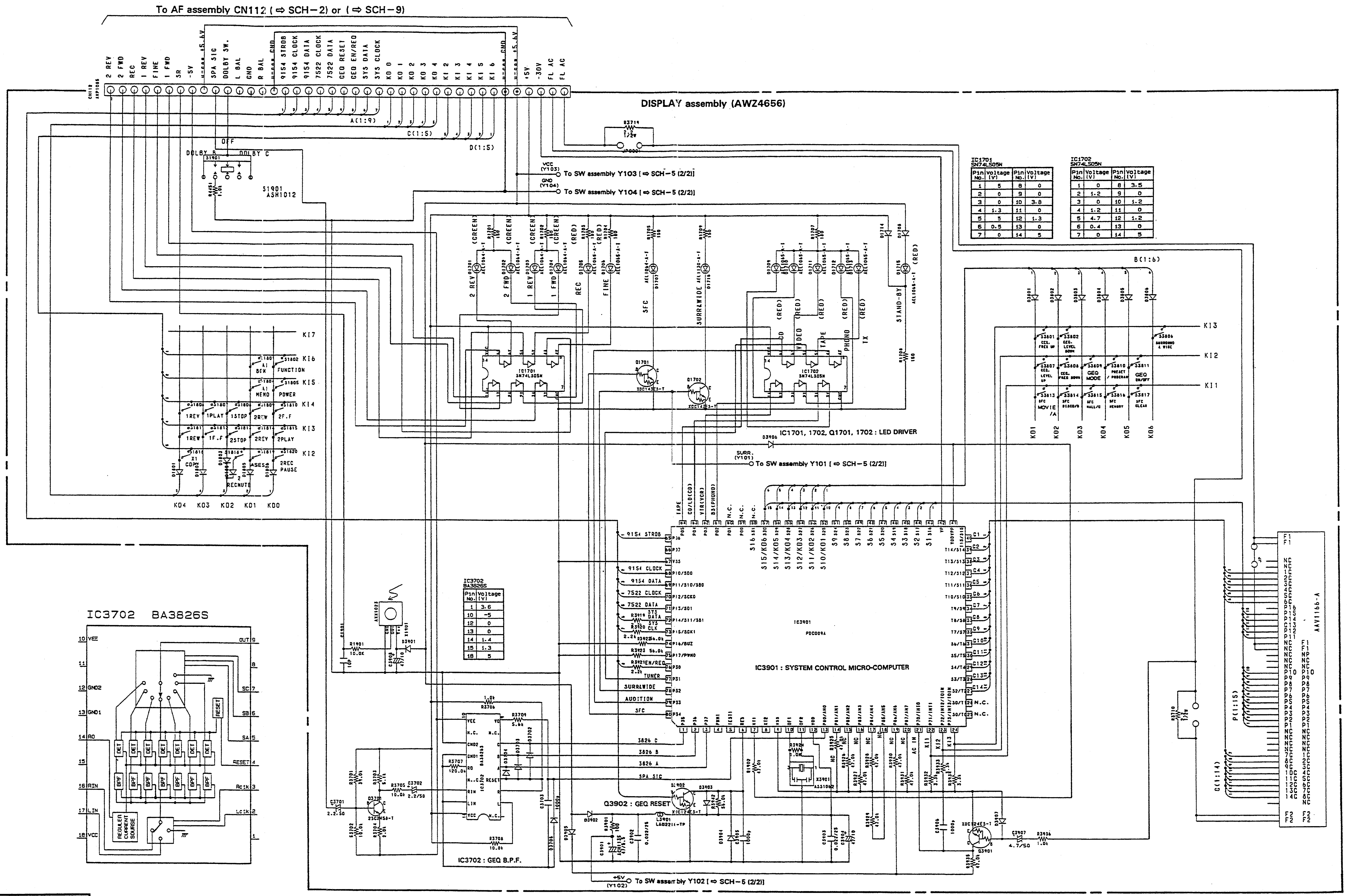
| Pin No. | Voltage (V) |
|---|---|
| 1 | 0 |
| 2 | 12 |
| 3 | - |
| 4 | - |
| 5 | 0 |
| 6 | 12 |
| 7 | - |
| 8 | 5 |
| 9 | 0 |

IC1501
XRA4558-P

| Pin No. | Voltage (V) |
|---|---|
| 1-3 | 0 |
| 4 | -12 |
| 5-7 | 0 |
| 8 | 12 |

➡ : MAIN SIGNAL

## 4.1.5 DISPLAY Assembly and SW Assembly


To AF assembly CN112 (⇨ SCH−2) or (⇨ SCH−9)
2 REV
2 FWD
REC
1 REV
1 FWD
FINE
SR
−5V
SPA SIC
DOLBY SW.
L BAL
GND
R BAL
9154 STROB
9154 CLOCK
9154 DATA
7522 CLOCK
7522 DATA
GEO EN/REO
GEO RESET
SYS DATA
SYS CLOCK
KO 0
KO 1
KO 2
KO 3
KO 4
KI 2
KI 3
KI 4
KI 5
KI 6
GND
+5V
−30V
FL AC
FL AC
DISPLAY assembly (AWZ4656)
A(1:9)
C(1:5)
D(1:5)
OFF
DOLBY B
DOLBY C
S1901
ASH1012
To SW assembly Y103 (⇨ SCH−5 (2/2))
To SW assembly Y104 (⇨ SCH−5 (2/2))
(GREEN)
(RED)
2 REV
2 FWD
1 REV
1 FWD
REC
FINE
SFC
SURRWIDE
CD
VIDEO
TAPE
PHONO
TX
STAND-BY
IC1701 SN74LS05N
IC1702 SN74LS05N
Q1701
Q1702
IC1701, 1702, Q1701, 1702 : LED DRIVER
KI7
KI6
KI5
KI4
KI3
KI2
BCN
FUNCTION
MEMO
POWER
1REV
1PLAY
1STOP
2REW
2F.F
1REW
1F.F
2STOP
2REV
2PLAY
COPY
RECMUTE
ASES
2REC PAUSE
KO4
KO3
KO2
KO1
KO0
B(1:6)
KI3
KI2
KI1
GEO MODE
GEO ON/OFF
MOVIE /A
KO1
KO2
KO3
KO4
KO5
KO6
SURR. (Y101)
To SW assembly Y101 (⇨ SCH−5 (2/2))
IC3901 PDC009A
IC3901 : SYSTEM CONTROL MICRO-COMPUTER
SURRWIDE
AUDITION
SFC
TUNER
3826 C
3826 B
3826 A
SPA SIC
Q3902 : GEQ RESET
IC3702 : GEQ B.P.F.
To SW assembly Y102 (⇨ SCH−5 (2/2))
P(1:15)
C(1:14)
AAV1166-A
IC3702 BA3826S
VEE
GND2
GND1
RO
RIN
LIN
VCC
OUT
SC
SB
SA
RESET
RclK
LclK
DET
BPF
RESET
REGULER CURRENT SOURSE

IC1701
SN74LS05N

| Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|
| 1 | 5 | 8 | 0 |
| 2 | 0 | 9 | 0 |
| 3 | 0 | 10 | 3.8 |
| 4 | 1.3 | 11 | 0 |
| 5 | 5 | 12 | 1.3 |
| 6 | 0.5 | 13 | 0 |
| 7 | 0 | 14 | 5 |

IC1702
SN74LS05N

| Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|
| 1 | 0 | 8 | 3.5 |
| 2 | 1.2 | 9 | 0 |
| 3 | 0 | 10 | 1.2 |
| 4 | 1.2 | 11 | 0 |
| 5 | 4.7 | 12 | 1.2 |
| 6 | 0.4 | 13 | 0 |
| 7 | 0 | 14 | 5 |

IC3702
BA3826S

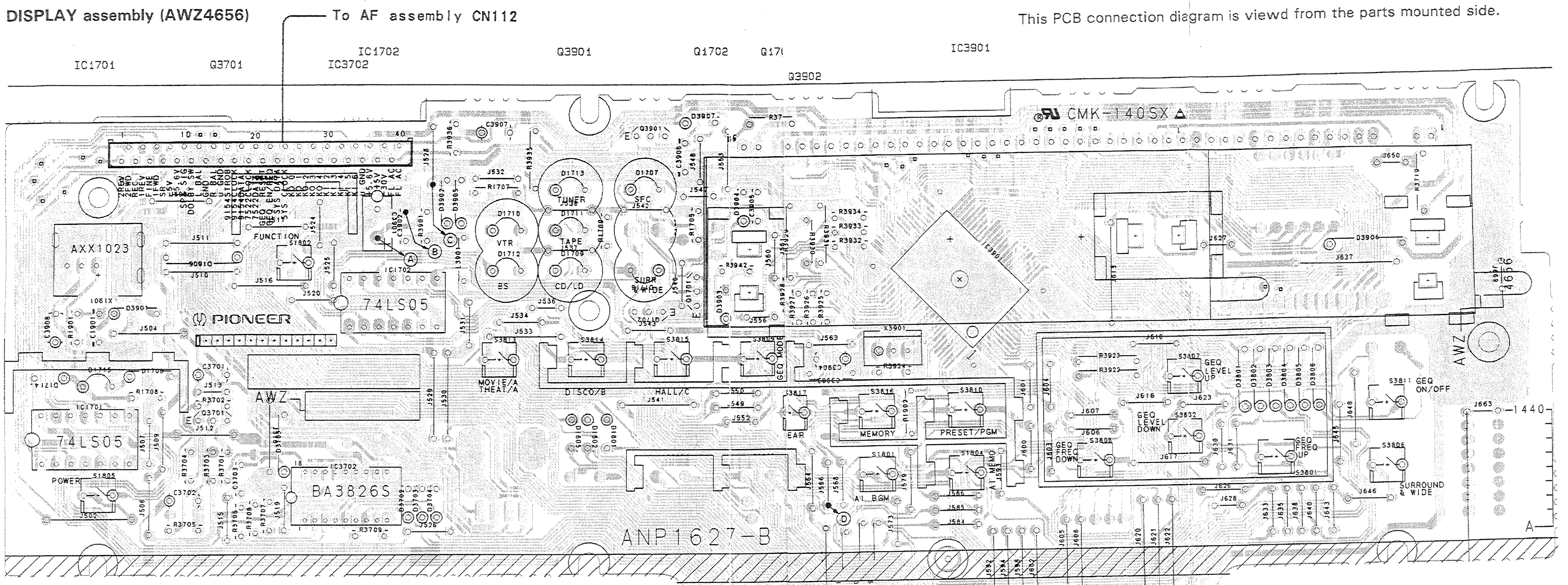
| Pin No. | Voltage (V) |
|---|---|
| 1 | 3.6 |
| 10 | −5 |
| 12 | 0 |
| 13 | 0 |
| 14 | 1.4 |
| 15 | 1.3 |
| 18 | 5 |

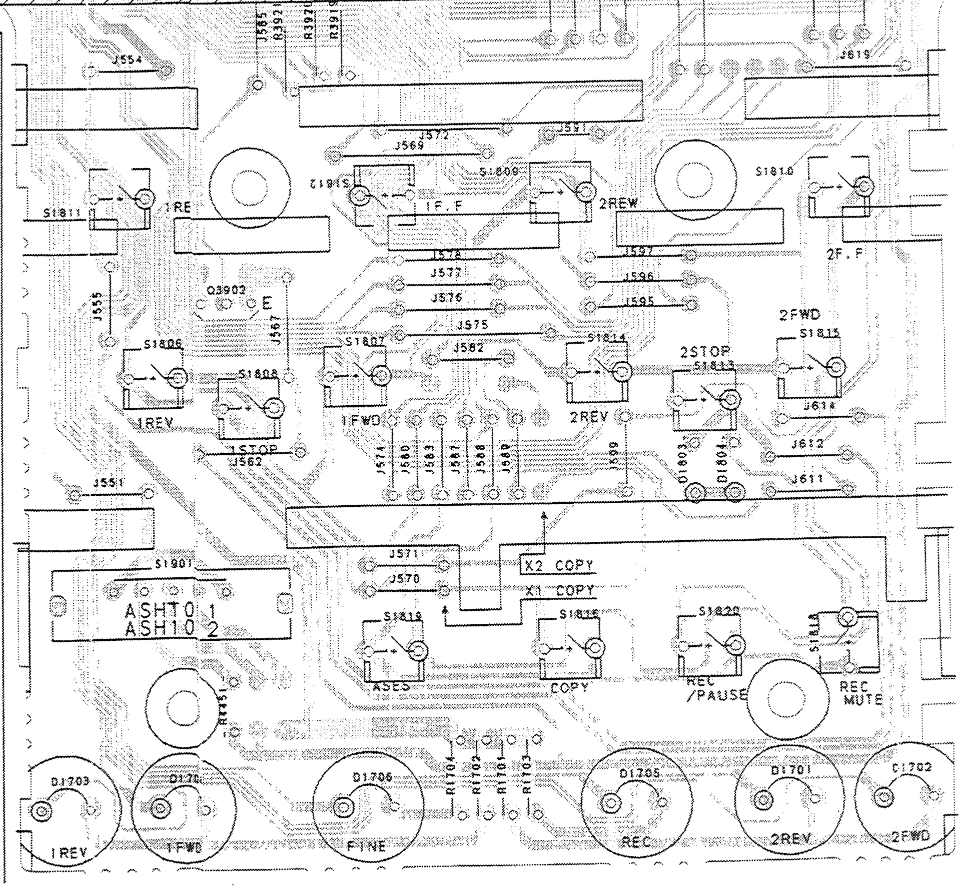
**SCH−5 −(1/2)** DISPLAY assembly

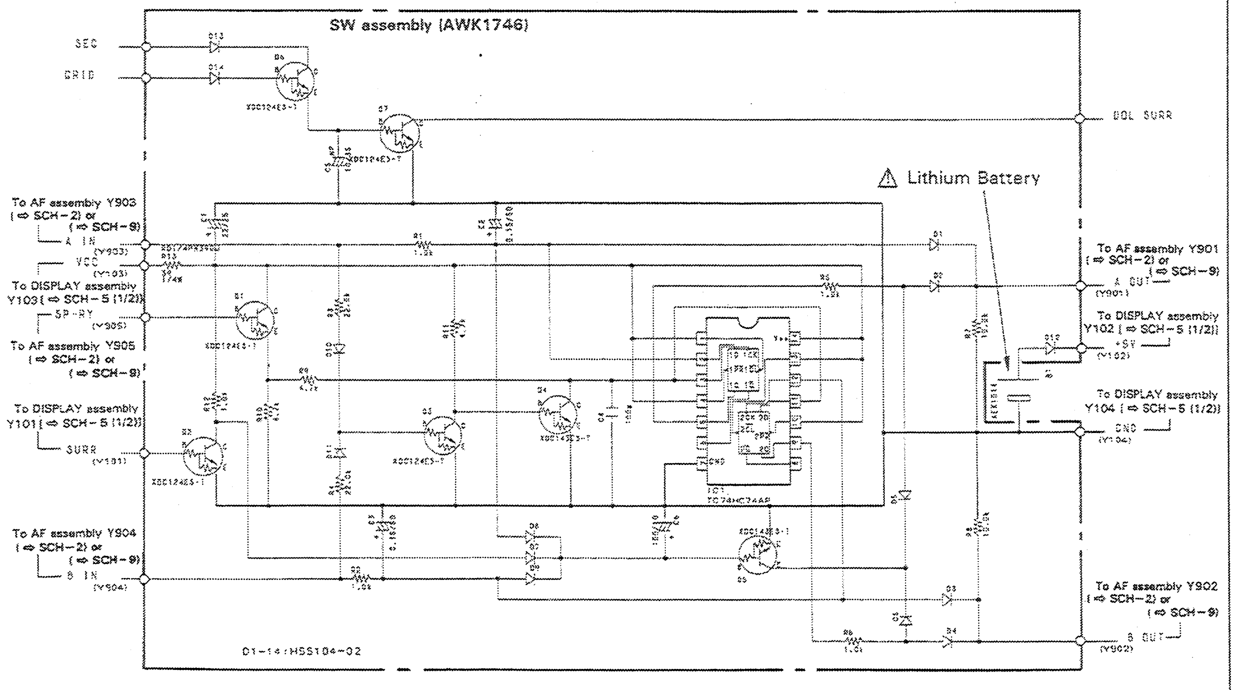
DISPLAY assembly **SCH−5 −(1/2)**

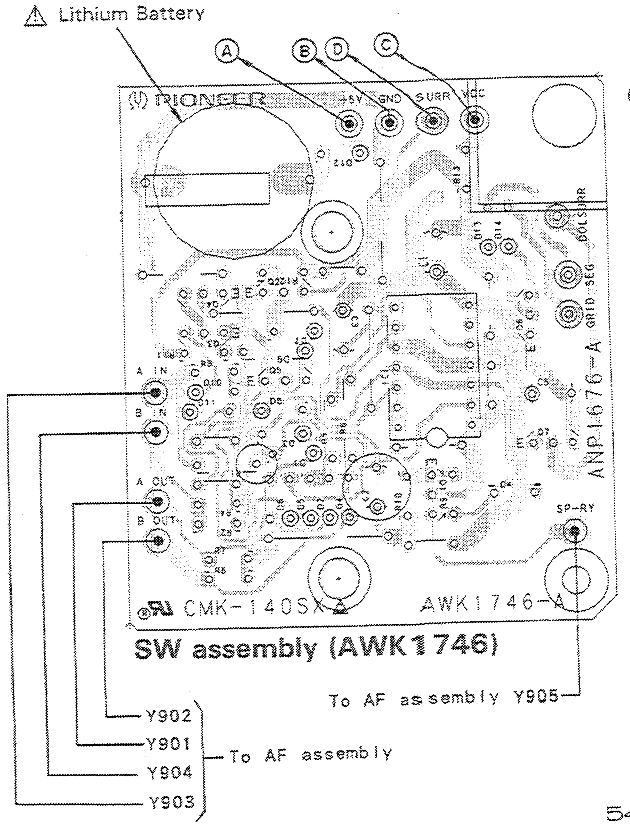
**DISPLAY assembly (AWZ4656)**

This PCB connection diagram is viewd from the parts mounted side.


To AF assembly CN112
IC1701
Q3701
IC1702
IC3702
Q3901
Q1702
IC3901
Q3902
CMK-140SX
AXX1023
PIONEER
74LS05
74LS05
BA3826S
AWZ
FUNCTION
POWER
MOVIE/A THEAT/A
DISCO/B
HALL/C
GEQ MODE
TUNER
TAPE
CD/LD
VTR
BS
SFC
SURR WIDE
EAR
MEMORY
PRESET/PGM
A1 BGM
A1 MEMO
GEQ LEVEL UP
GEQ LEVEL DOWN
GEQ FREQ DOWN
GEQ FREQ UP
GEQ ON/OFF
SURROUND WIDE
ANP1627-B
AWZ 4656
1440


1RE
1F.F
2REW
2F.F
1REV
1STOP
1FWD
2REV
2STOP
2FWD
ASHTO 1
ASHTO 2
X2 COPY
X1 COPY
ASES
COPY
REC /PAUSE
REC MUTE
1REV
1FWD
FINE
REC
2REV
2FWD


SW assembly (AWK1746)
SEC
GRID
DOL SURR
Lithium Battery
To AF assembly Y903 (⇨ SCH-2) or (⇨ SCH-9)
A IN
To DISPLAY assembly Y103 (⇨ SCH-5 (1/2))
SP-RY
To AF assembly Y905 (⇨ SCH-2) or (⇨ SCH-9)
To DISPLAY assembly Y101 (⇨ SCH-5 (1/2))
SURR
To AF assembly Y904 (⇨ SCH-2) or (⇨ SCH-9)
B IN
To AF assembly Y901 (⇨ SCH-2) or (⇨ SCH-9)
A OUT
To DISPLAY assembly Y102 (⇨ SCH-5 (1/2))
+5V
To DISPLAY assembly Y104 (⇨ SCH-5 (1/2))
GND
To AF assembly Y902 (⇨ SCH-2) or (⇨ SCH-9)
B OUT
IC1 TC74HC74AP
D1-14 : HSS104-02

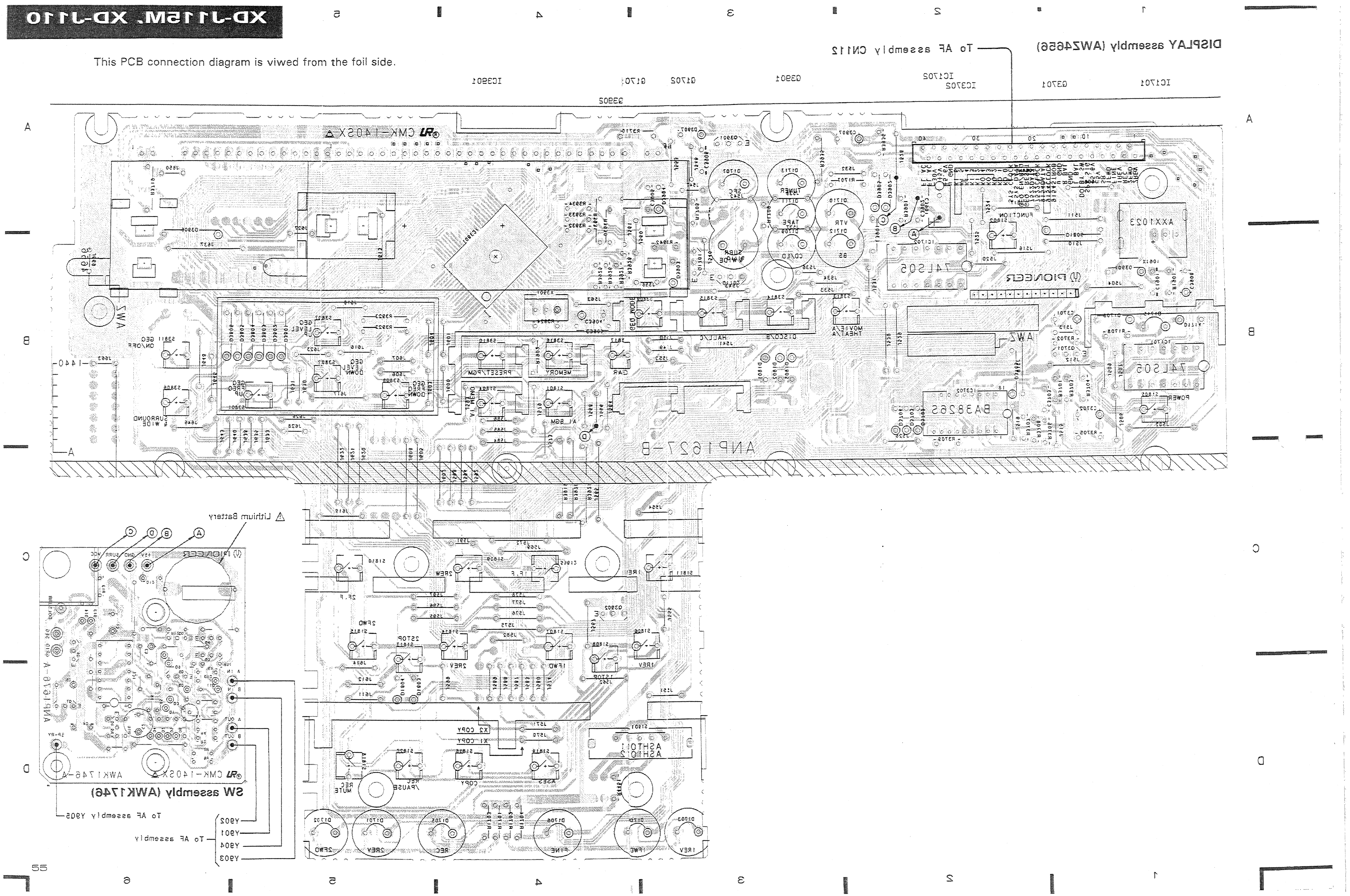

Lithium Battery
A
B
D
C
+5V
GND
SURR
VCC
PIONEER
A IN
B IN
A OUT
B OUT
SP-RY
CMK-140SX
AWK1746-A
ANP1676-A
To AF assembly Y905
Y902
Y901
Y904
Y903
To AF assembly

**SW assembly (AWK1746)**

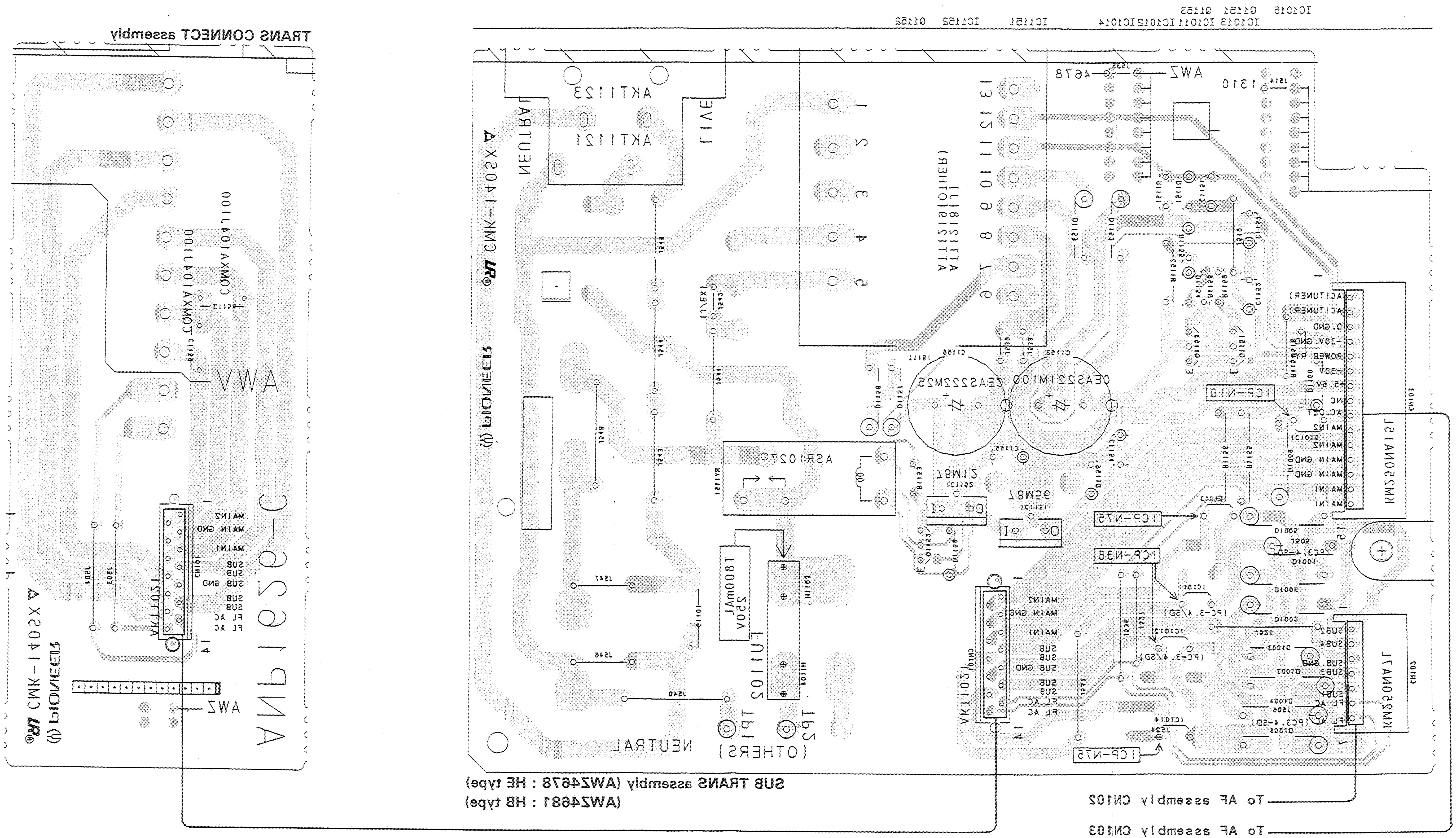
**SCH-5**
-(2/2)

SW assembly

This PCB connection diagram is viwed from the foil side.


DISPLAY assembly (AWZ4656)
To AF assembly CN112
IC1701
G3701
IC1702
IC3702
G3901
G1702
G1701
IC3901
G3902
A
B
C
D
1
2
3
4
5
6
CMK-140SX
ANP1627-B
PIONEER
74LS05
BA3826S
AXX1023
FUNCTION
POWER
MEMORY
PRESET/PGM
GEO ON/OFF
SURROUND WIDE
GEO LEVEL UP
GEO LEVEL DOWN
GEO FREQ UP
GEO FREQ DOWN
HALL/C
DISCO/B
MOVIE/A THEATER
CD/LD
TAPE
TUNER
VTR
SFC
SUPER WIDE
2REW
2FWD
1REW
1FWD
2STOP
1STOP
1REV
2REV
COPY
REC MUTE
REC /PAUSE
X1 COPY
X2 COPY
ASHT0111
ASHT0112
Lithium Battery
SW assembly (AWK1746)
AWK1746-A
To AF assembly Y905
To AF assembly
Y902
Y901
Y904
Y903

## 4.1.6 SUB TRANS Assembly and TRANS CONNECT Assembly


TRANS CONNECT assembly
ANP1692-C
AWV
AWZ
VKN1021
CN101
MAIN2
MAIN GND
MAIN1
SUB
SUB GND
FL AC
PIONEER
CMK-1405X
AKT1123
AKT1121
NEUTRAL
LIVE
ASR1027
ATT1212(OTHERS)
ATT1218(U)
CEAS222M25
CEAS221M100
FU1102
1800mA L 250V
TP1
TP2
(OTHERS)
AWZ
4678
1310
KM200NA15
KM200NA17
CN102
CN103
CN1101
ICP-N10
ICP-N75
ICP-N38
AC(TUNER)
D.GND
-30V.GND
POWER
-30V
+5.6V
NC
AC.DET
SUB2
SUB4
SUB3
SUB1
FL AC
(PC3.4-SD)
(PC-3.4/SD)

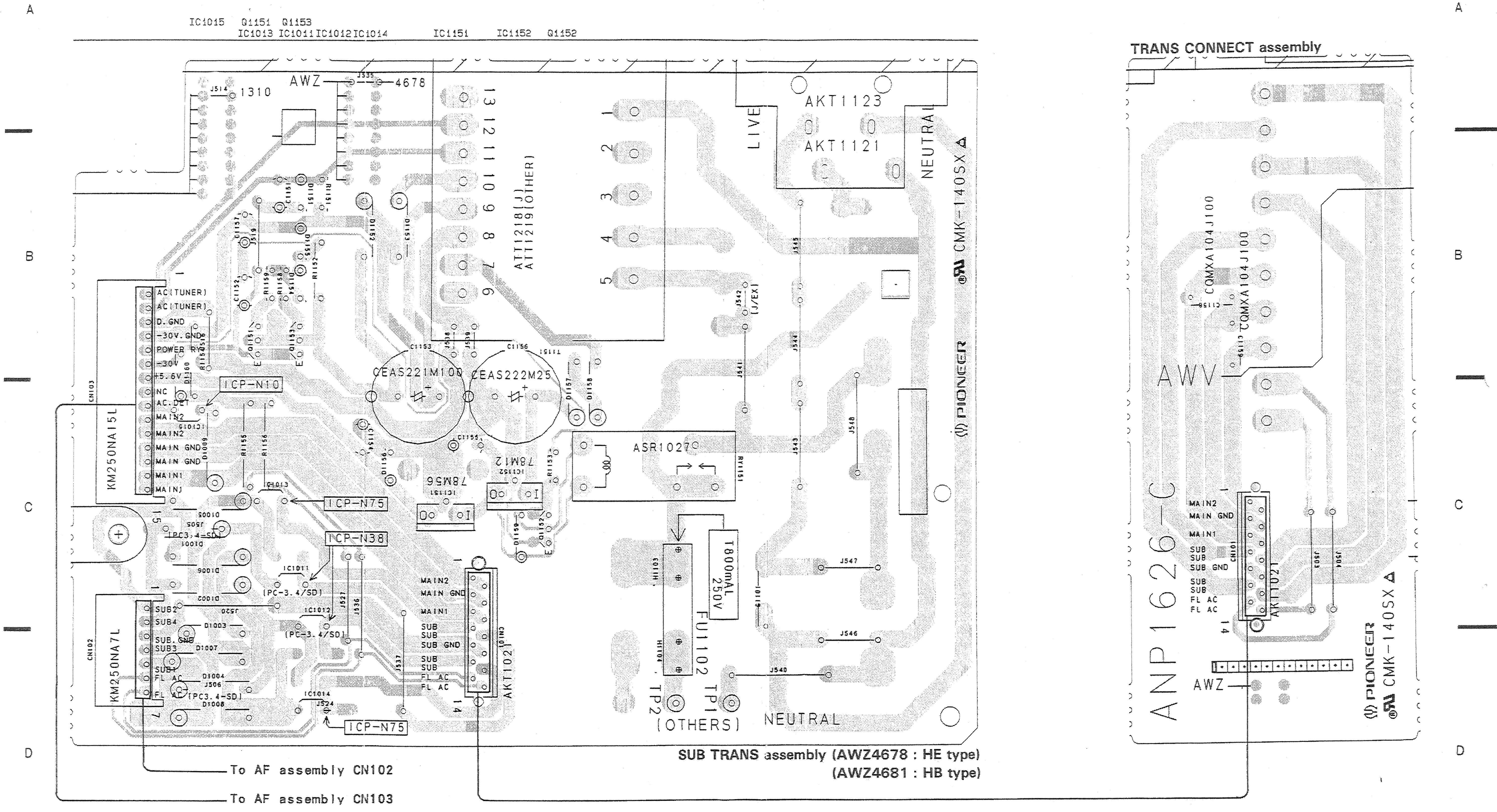
**SUB TRANS assembly (AWZ4678 : HE type)**
**(AWZ4681 : HB type)**

To AF assembly CN102

To AF assembly CN103

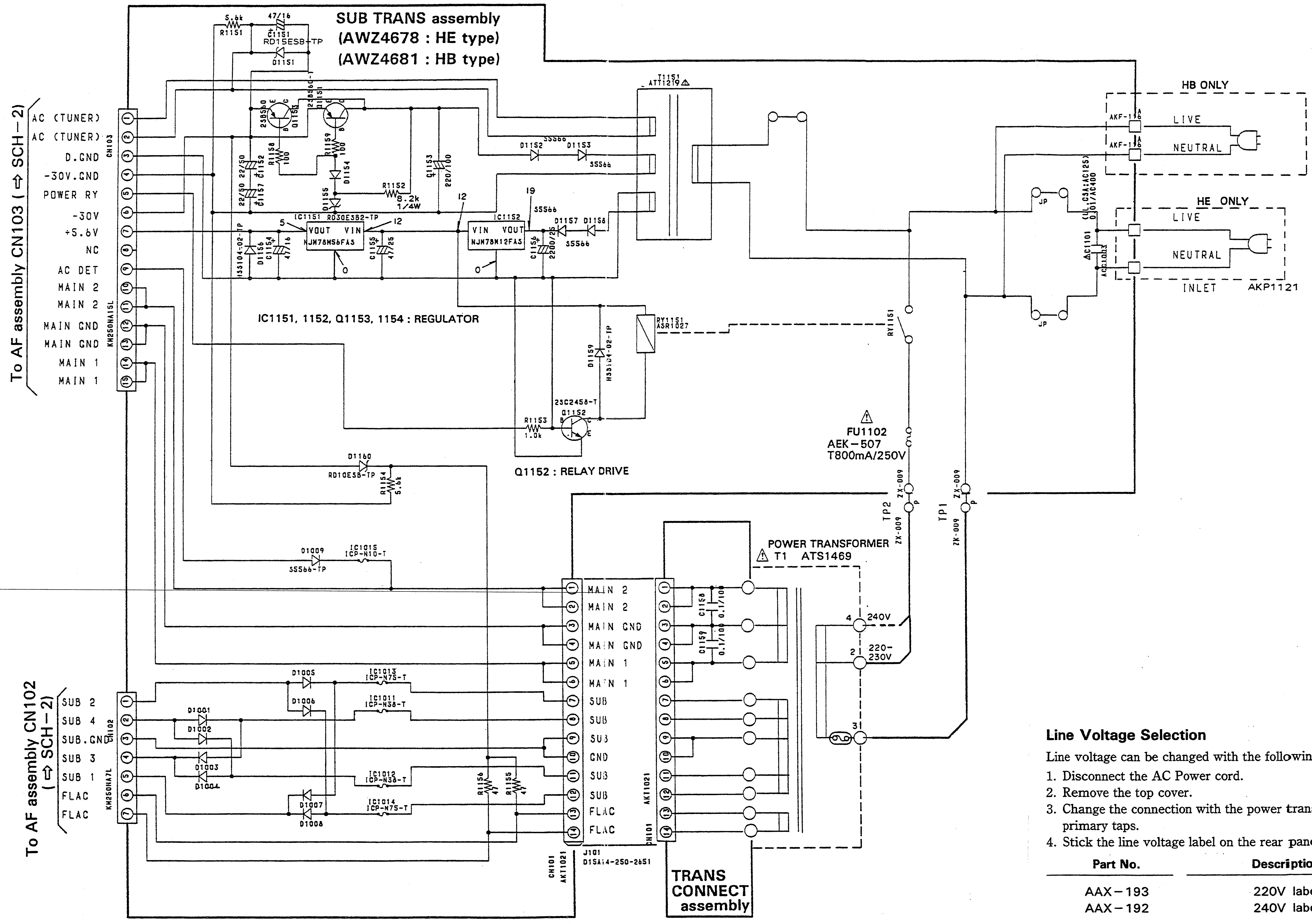
This PCB connection diagram is viwed from the foil side.

### 4.1.6 SUB TRANS Assembly and TRANS CONNECT Assembly


IC1015
Q1151
Q1153
IC1013
IC1011
IC1012
IC1014
IC1151
IC1152
Q1152
TRANS CONNECT assembly
AWZ
4678
1310
J514
J535
ATT1218 (J)
ATT1219 (OTHER)
AKT1123
AKT1121
LIVE
NEUTRAL
CMK-140SX
PIONEER
AC (TUNER)
AC (TUNER)
D. GND
-30V. GND
POWER
-30V
+5.6V
NC
AC. DET
MAIN2
MAIN2
MAIN GND
MAIN GND
MAIN1
MAIN1
CN103
KM250NA15L
ICP-N10
ICP-N75
ICP-N38
ICP-N75
CEAS221M100
CEAS222M25
C1153
C1156
78M56
78M12
ASR1027
RY1151
T800mAL 250V
FU1102
TP2
TP1
(OTHERS)
NEUTRAL
SUB2
SUB4
SUB. GND
SUB3
SUB1
FL AC
FL AC
CN102
KM250NA7L
[PC3.4-SD]
[PC-3.4/SD]
MAIN2
MAIN GND
MAIN1
SUB
SUB
SUB GND
SUB
SUB
FL AC
FL AC
AKT1102
CN1102
CQMXA104J100
CQMXA104J100
AWV
ANP1626-C
CN1101
AKT1021
J503
J504
AWZ
CMK-140SX
PIONEER
To AF assembly CN102
To AF assembly CN103

**SUB TRANS assembly (AWZ4678 : HE type)**
**(AWZ4681 : HB type)**

This PCB connection diagram is viewd from the parts mounted side.


SUB TRANS assembly
(AWZ4678 : HE type)
(AWZ4681 : HB type)
To AF assembly CN103 (⇨ SCH-2)
CN103
KH250NA15L
AC (TUNER)
AC (TUNER)
D.GND
-30V.GND
POWER RY
-30V
+5.6V
NC
AC DET
MAIN 2
MAIN 2
MAIN GND
MAIN GND
MAIN 1
MAIN 1
R1151 5.6k
C1151 47/16
RD15ESB-TP
D1151
2SB560
Q1153
2SB560-1
Q1154
R1158 100
R1159 100
C1152 22/50
C1157 22/50
D1155
D1154
R1152 8.2k 1/4W
C1153 220/100
IC1151 RO30E3B2-TP
VOUT VIN
NJM78M56FA5
1SS104-02-TP
D1156
C1154 47/16
C1155 47/25
IC1152
VIN VOUT
NJM78M12FA5
C1156 2200/25
D1152 D1153 SS566
D1157 D1158 SS566
T1151 ATT1219 ⚠
IC1151, 1152, Q1153, 1154 : REGULATOR
RY1151 ASR1027
D1159 1SS104-02-TP
2SC2458-T
Q1152
R1153 1.0k
Q1152 : RELAY DRIVE
D1160 RD10ESB-TP
R1154 5.6k
D1009 SS566-TP
IC1015 ICP-N10-T
HB ONLY
AKF-196
LIVE
NEUTRAL
HE ONLY
LIVE
NEUTRAL
INLET AKP1121
JP
JP
C1101 (UL,CSA:AC125) 0.01/AC400
AC1101 AC1013
RY1151
⚠ FU1102 AEK-507 T800mA/250V
ZX-009
TP2
TP1
POWER TRANSFORMER
⚠ T1 ATS1469
4 240V
2 220-230V
3
C1158 0.1/100
C1159 0.1/100
MAIN 2
MAIN 2
MAIN GND
MAIN GND
MAIN 1
MAIN 1
SUB
SUB
SUB
GND
SUB
SUB
FLAC
FLAC
J101 D1SA14-250-2651
CH101 AKT1021
TRANS CONNECT assembly
To AF assembly CN102 (⇨ SCH-2)
CN102
KH250HA7L
SUB 2
SUB 4
SUB.GND
SUB 3
SUB 1
FLAC
FLAC
D1001
D1002
D1003
D1004
D1005
D1006
D1007
D1008
IC1013 ICP-N75-T
IC1011 ICP-N38-T
IC1012 ICP-N38-T
IC1014 ICP-N75-T
R1156 47
R1155 47

### Line Voltage Selection

Line voltage can be changed with the following steps.

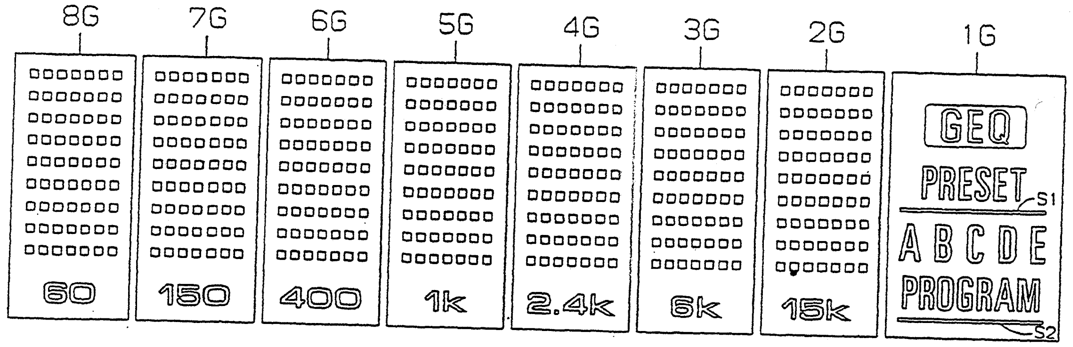
1. Disconnect the AC Power cord.
2. Remove the top cover.
3. Change the connection with the power transformer (T1) primary taps.
4. Stick the line voltage label on the rear panel.

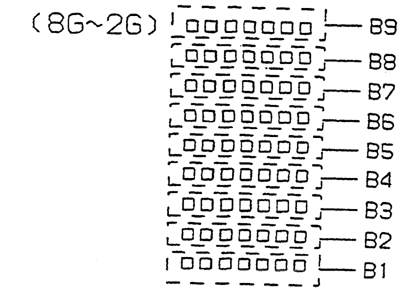
| Part No. | Description |
|---|---|
| AAX−193 | 220V label |
| AAX−192 | 240V label |

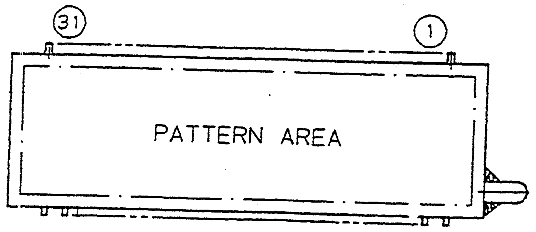
## ■ AAV1166 (V3901 : DISPLAY ASSEMBLY)

### ● FL Tube

● Grid Assignment







● Pin Connection

| PIN NO. | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONNECTION | F2 | F2 | NP | NC | 8G | 7G | 6G | 5G | 4G | 3G | 2G | 1G | NC | NC | NC | NC |

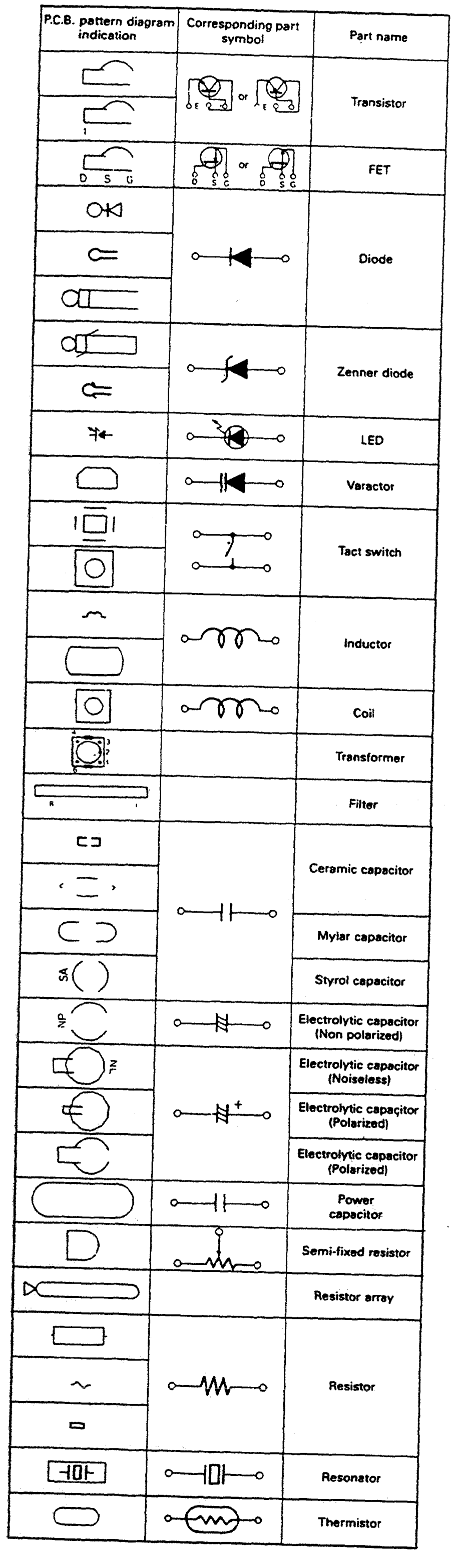
| PIN NO. | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONNECTION | P1 | P2 | P3 | P4 | P5 | P6 | P7 | P8 | P9 | P10 | NC | NC | NP | F1 | F1 |

NOTE
1) F1,F2 --- Filament
2) NP ------- No pin
3) NC ------- No connection
4) 1G~8G --- Grid
5) DL ------- Datum Line

● Anode Connection

|  | 8G | 7G | 6G | 5G | 4G | 3G | 2G | 1G |
|---|---|---|---|---|---|---|---|---|
| P1 | 60 | 150 | 400 | 1k | 2.4k | 6k | 15k | S2 |
| P2 | B1 | B1 | B1 | B1 | B1 | B1 | B1 | PROGRAM |
| P3 | B2 | B2 | B2 | B2 | B2 | B2 | B2 | A |
| P4 | B3 | B3 | B3 | B3 | B3 | B3 | B3 | B |
| P5 | B4 | B4 | B4 | B4 | B4 | B4 | B4 | C |
| P6 | B5 | B5 | B5 | B5 | B5 | B5 | B5 | D |
| P7 | B6 | B6 | B6 | B6 | B6 | B6 | B6 | E |
| P8 | B7 | B7 | B7 | B7 | B7 | B7 | B7 | S1 |
| P9 | B8 | B8 | B8 | B8 | B8 | B8 | B8 | PRESET |
| P10 | B9 | B9 | B9 | B9 | B9 | B9 | B9 | GEQ |

## 4.2 CD UNIT



| P.C.B. pattern diagram indication | Corresponding part symbol | Part name |
|---|---|---|
|  |  | Transistor |
|  |  | FET |
|  |  | Diode |
|  |  | Zenner diode |
|  |  | LED |
|  |  | Varactor |
|  |  | Tact switch |
|  |  | Inductor |
|  |  | Coil |
|  |  | Transformer |
|  |  | Filter |
|  |  | Ceramic capacitor |
|  |  | Mylar capacitor |
|  |  | Styrol capacitor |
|  |  | Electrolytic capacitor (Non polarized) |
|  |  | Electrolytic capacitor (Noiseless) |
|  |  | Electrolytic capacitor (Polarized) |
|  |  | Electrolytic capacitor (Polarized) |
|  |  | Power capacitor |
|  |  | Semi-fixed resistor |
|  |  | Resistor array |
|  |  | Resistor |
|  |  | Resonator |
|  |  | Thermistor |

1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the above Table.
3. The capacitor terminal marked with ▭ shows negative terminal.
4. The diode marked with ○ shows cathode side.
5. The transistor terminal marked with ▭ shows emitter.

**Note:** (Type 4)

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or µF unless otherwise noted.
   Ratings: capacitor (µF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or µH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   ▭ : DC voltage (V) in PLAY mode unless otherwise noted.
   ⇦ mA or ← mA: DC current in PLAY mode unless otherwise noted.
   Value in ( ) is DC current in STOP mode.
7. **OTHERS:**
   - ➡ : Signal route.
   - ⌀ : Adjusting point.
   - ▼ (Red) : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SWITCHES** (Underline indicates switch position):

**(For XD−J115M)**

MOTHER BOARD assembly

| S351 | TEST MODE |
|---|---|

DISPLAY BOARD assembly

| | |
|---|---|
| S701 | 4 |
| S702 | PROGRAM |
| S703 | ⏮/⏪ |
| S704 | 5 |
| S705 | EJECT |
| S706 | ▶/❙❙ |
| S707 | 2 |
| S708 | RANDOM |
| S709 | REPEAT |
| S710 | 6 |
| S711 | ⏩/⏭ |
| S712 | ■ |
| S713 | 1 |
| S714 | TIME |
| S715 | HI−LITE SCAN |
| S716 | 3 |
| S717 | EDIT |
| S718 | DELETE |

**(For XD−J110)**

MOTHER BOARD assembly

| S351 | TEST MODE |
|---|---|

DISPLAY BOARD assembly

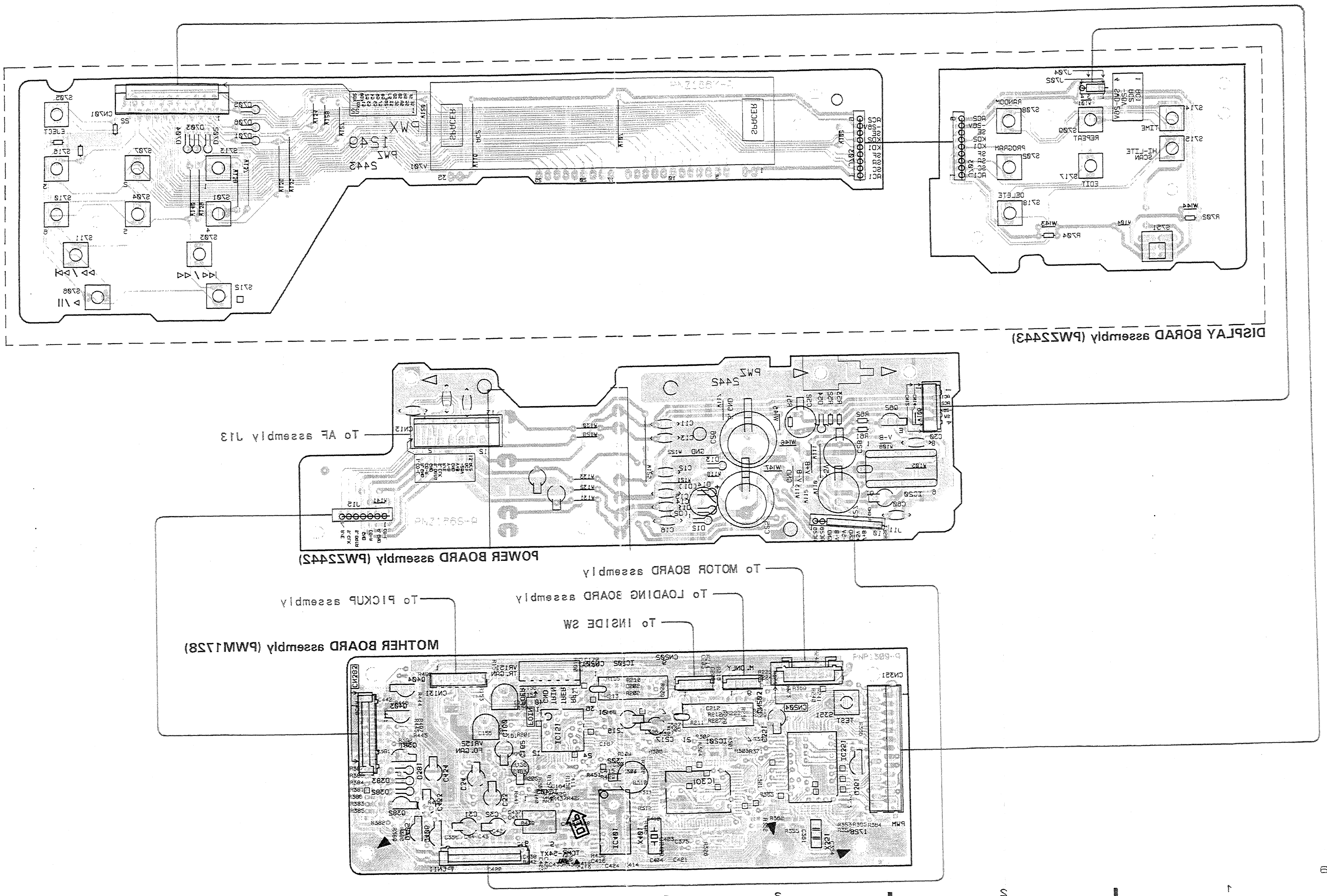
| | |
|---|---|
| S707 | REPEAT |
| S708 | TIME |
| S709 | RANDOM |
| S710 | EDIT |
| S711 | ▶/❙❙ |
| S712 | ■ |
| S713 | ⏩/⏭ |
| S714 | ⏮/⏪ |
| S716 | O/C |
| S717 | PROGRAM |
| S718 | HI−LITE SCAN |

**9. For SCH−☐ on the schematic diagram**

- SCH−☐ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)

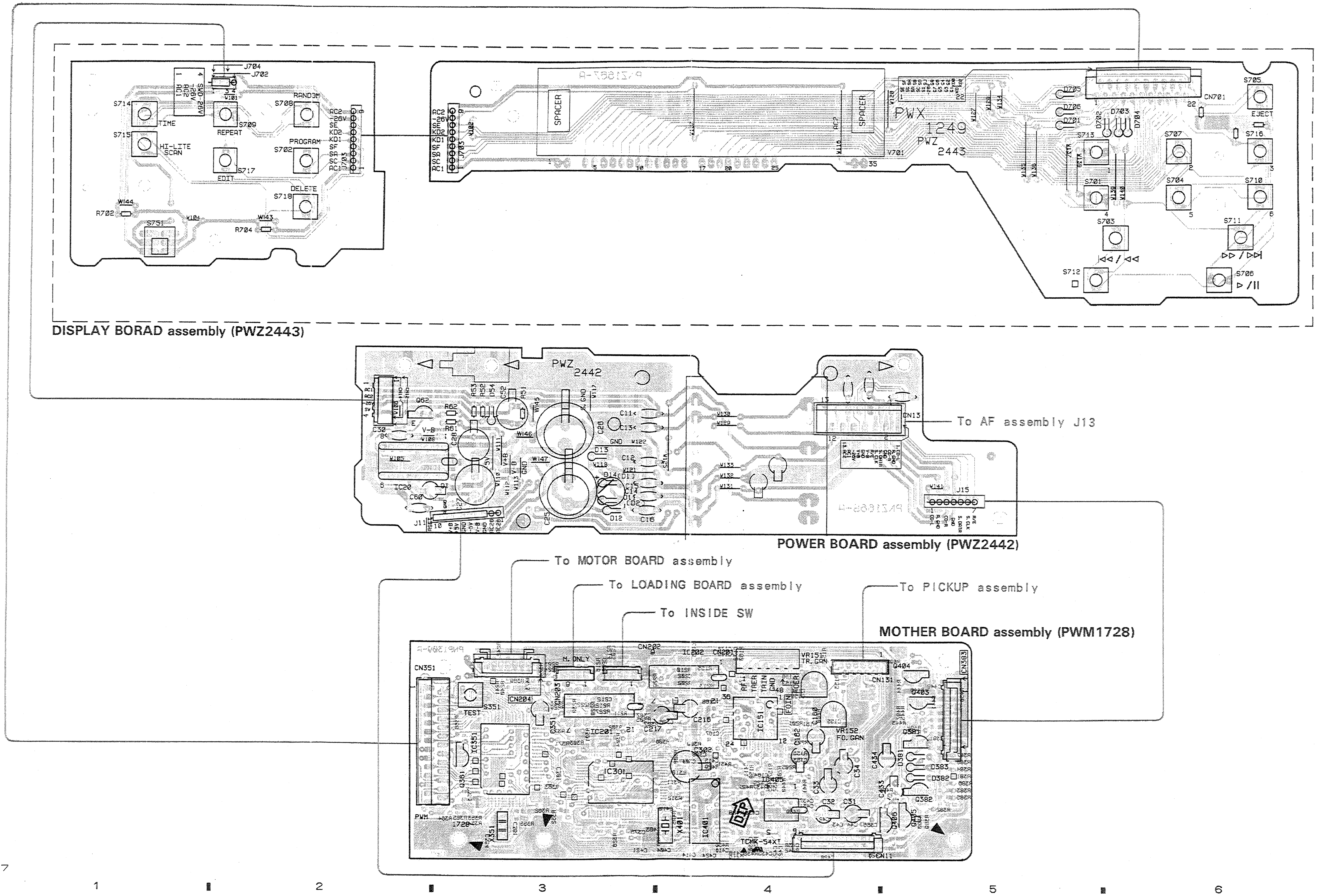
## 4.2.1 Multi CD Unit (For XD-J115M)

This PCB connection diagram is viwed from the foil side.


DISPLAY BORAD assembly (PWZ2443)
POWER BOARD assembly (PWZ2442)
MOTHER BOARD assembly (PWM1728)
To AF assembly J13
To PICKUP assembly
To LOADING BOARD assembly
To INSIDE SW
To MOTOR BOARD assembly
EJECT
RANDOM
REPEAT
PROGRAM
TIME
HI-LITE SCAN
EDIT
DELETE
TEST
A
B
C
D
1
2
3
4
5
6

## 4.2.1 Multi CD Unit (For XD−J115M)

This PCB connection diagram is viewd from the parts mounted side.


DISPLAY BORAD assembly (PWZ2443)
POWER BOARD assembly (PWZ2442)
MOTHER BOARD assembly (PWM1728)
To AF assembly J13
To MOTOR BOARD assembly
To LOADING BOARD assembly
To INSIDE SW
To PICKUP assembly
TIME
HI-LITE SCAN
REPEAT
RANDOM
PROGRAM
EDIT
DELETE
EJECT
PWX 1249
PWZ 2443
PWZ 2442
SPACER
CN701
CN13
J15
J11
CN351
CN201
CN202
CN203
CN204
CN131
CN383
CN11
IC20
IC151
IC201
IC202
IC301
IC351
IC401
VR151 TR. GAN
VR152 FO. GAN
TEST
S351
PWM 1728
TCMK-54XT

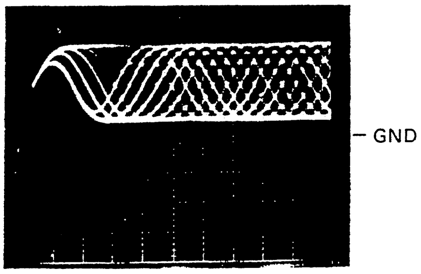
## Waveforms

Note: The encircled numbers denote measuring points in the schematic diagram.

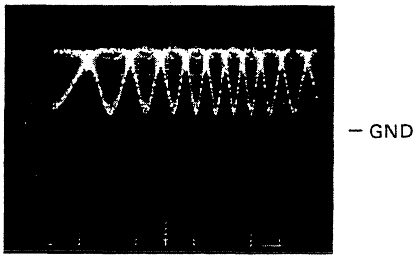
*1 50T-JUMP: After switching to the pause mode, press the manual search key.

*2 FOCUS-IN: Press the key without loading a disc.

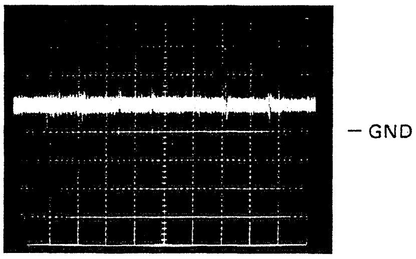
② TP1–Pin 1 : PLAY MODE
(RF)
500mV/div. 500nsec/div.



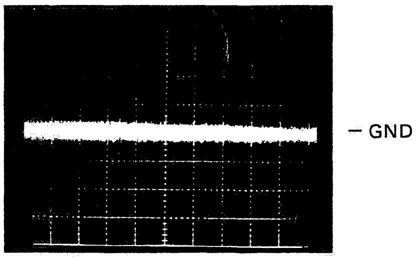
② TP1–Pin 1 : TRACK SEARCH MODE
(RF)
500mV/div. 200μsec/div.



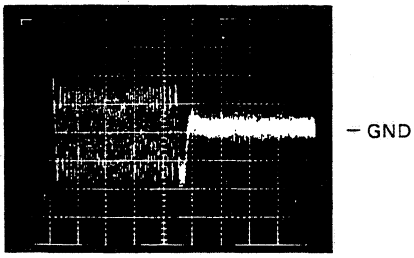
③ TP1–Pin 6 : PLAY MODE
(FOER)
100mV/div. 10msec/div.



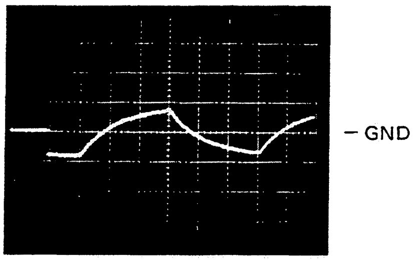
④ TP1–Pin 2 : PLAY MODE
(TRER)
1V/div. 10msec/div.



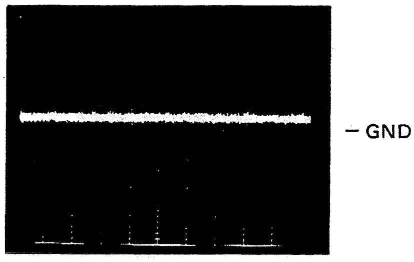
④ TP1–Pin 2 : 50T–JUMP (*1) MODE
(TRER)
1V/div. 1msec/div.



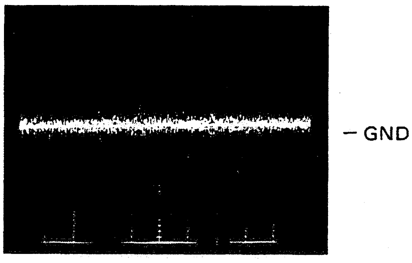
⑤ IC202–Pin4 : FOCUS–IN (*2) MODE
(FODR)
1V/div. 200msec/div.



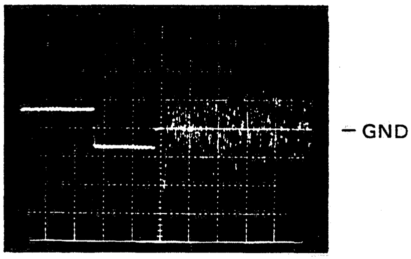
⑤ IC202–Pin4 : PLAY MODE
(FODR)
1V/div. 1msec/div.



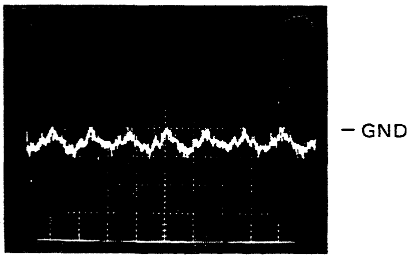
⑥ IC202–Pin3 : PLAY MODE
(TRDR)
500mV/div. 1msec/div.



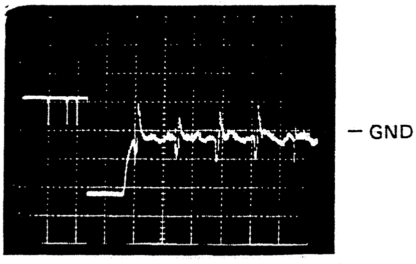
⑥ IC202–Pin3 : 50T–JUMP (*1) MODE
(TRDR)
500mV/div. 1msec/div.



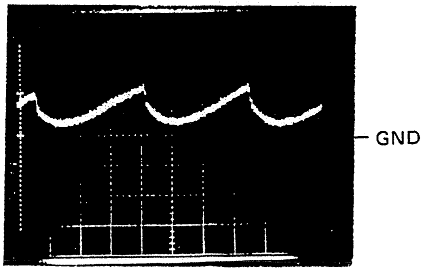
⑦ IC201–Pin3 : PLAY MODE
(SPDR)
1V/div. 50msec/div.



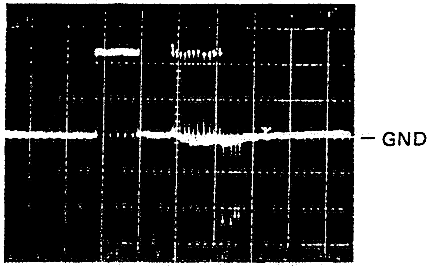
⑦ IC201–Pin3 : TRACK SEARCH MODE
(SPDR)
2V/div. 50msec/div.



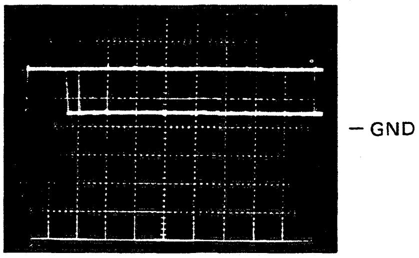
⑧ IC202–Pin9 : PLAY MODE
(CADR)
200mV/div. 2sec/div.



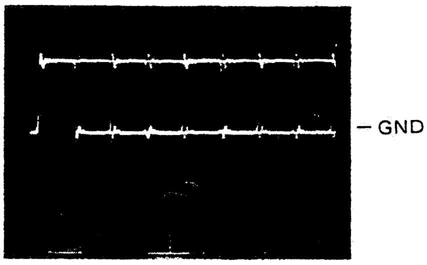
⑧ IC202–Pin9 : TRACK SEARCH MODE
(CADR)
2V/div. 500msec/div.



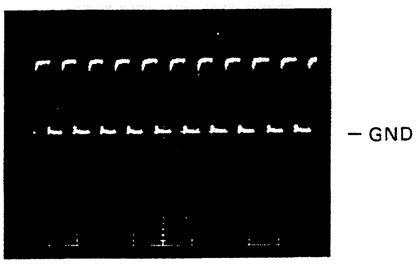
⑨ IC151–Pin32 : PLAY MODE
(EFM)
2V/div. 500nsec/div.



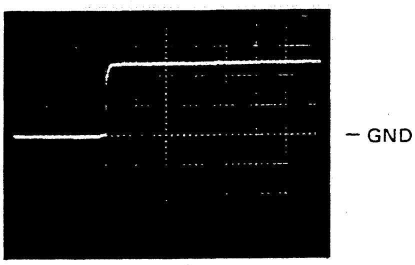
⑩ IC401–Pin9 : PLAY MODE
(LO) (D/A DATA OUT)
2V/div. 0.1μsec/div.



⑯ IC301−Pin35 : PLAY MODE (1kHz)
(BCLK)
2V/div. 500nsec/div.

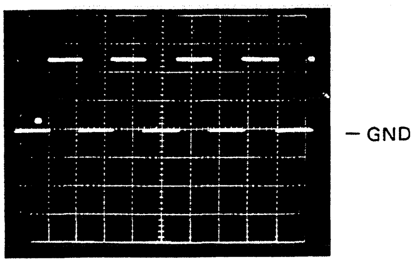


㉒ IC20−Pin9 : POWER SWITCH−ON
(RSET)
2V/div. 100msec/div.

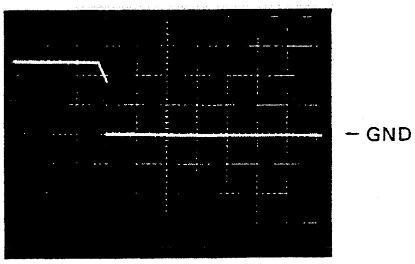


㉖

⑱ IC301−Pin32 : PLAY MODE (1kHz)
(LRCK)
2V/div. 10μsec/div.

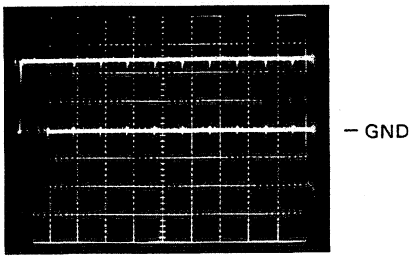


㉒ IC20−Pin9 : POWER SWITCH−OFF
(RSET)
2V/div. 100msec/div

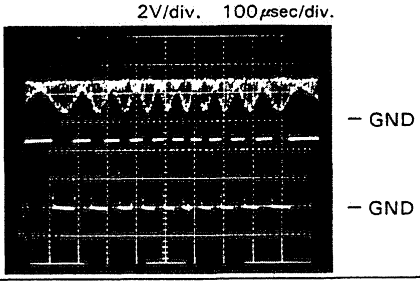


㉗

⑲ IC301−Pin34 : PLAY MODE (1kHz)
(DATA)
2V/div. 500nsec/div.



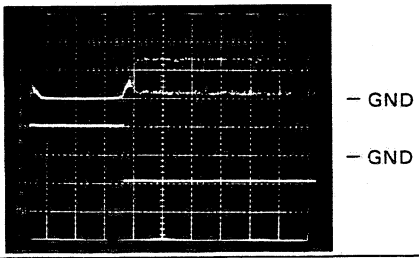
㉓ : TRACK SEARCH MODE
Upper : TP1−Pin1 (RF) 1V/div.
Lower : IC151−Pin29 (MIRR)
2V/div. 100μsec/div.



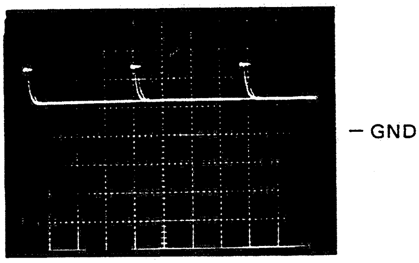
㉘

⑳

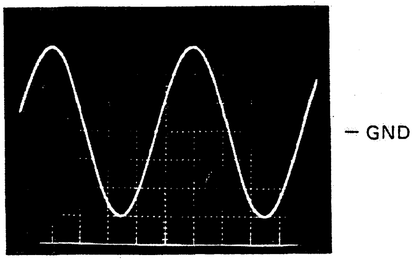
㉔ : PLAY MODE
Upper : TP1−Pin1 (RF) 1V/div.
Lower : IC151−Pin30 (DFCT)
5V/div. 200μsec/div.



㉝ IC301−Pin4 : PLAY MODE
(MDP)
2V/div. 2μsec/div.

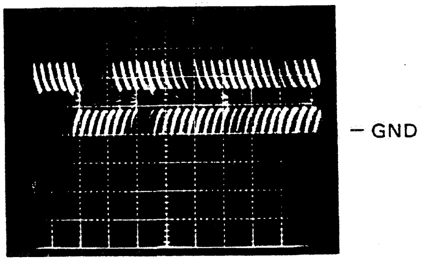


㉑ CN383−Pin1 : PLAY MODE (1kHz)
(Lch OUTPUT)
1V/div. 200μsec/div.



㉕

(53) IC301−Pin20 : PLAY MODE
(PCO)
2V/div. 10μsec/div.

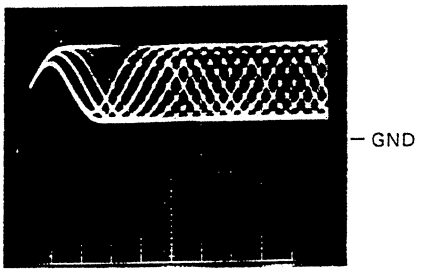


## Waveforms

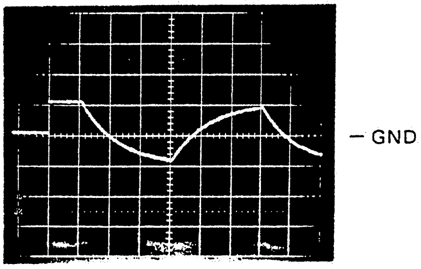
Note: The encircled numbers denote measuring points in the schematic diagram.

*1 50T-JUMP: After switching to the pause mode, press the manual search key.
*2 FOCUS-IN: Press the key without loading a disc.

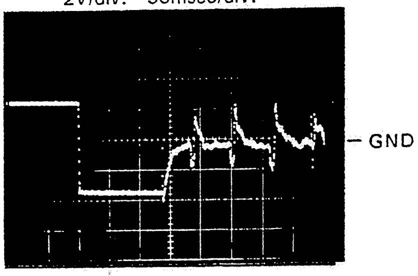
② TP1–Pin 1 : PLAY MODE
(RF)
500mV/div. 500nsec/div.



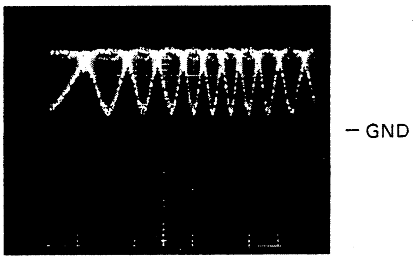
⑤ IC202–Pin4 : FOCUS–IN (*2) MODE
(FODR)
1V/div. 200msec/div.



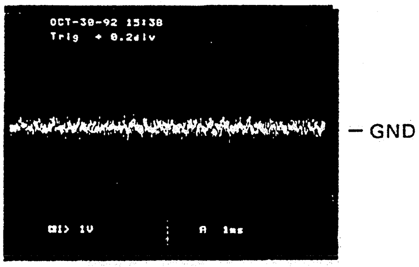
⑦ IC201–Pin3 : TRACK SEARCH MODE
(SPDR)
2V/div. 50msec/div.



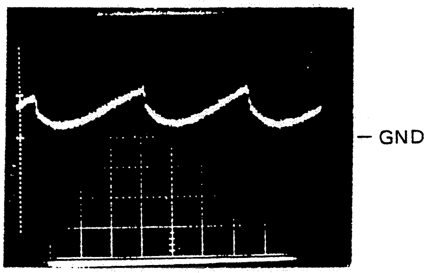
② TP1–Pin 1 : TRACK SEARCH MODE
(RF)
500mV/div. 200μsec/div.



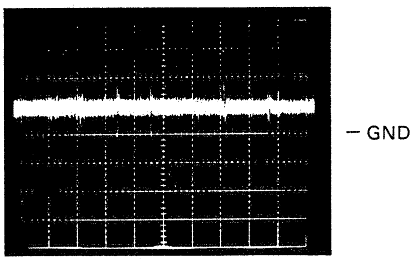
⑤ IC202–Pin4 : PLAY MODE
(FODR)
1V/div. 1msec/div.



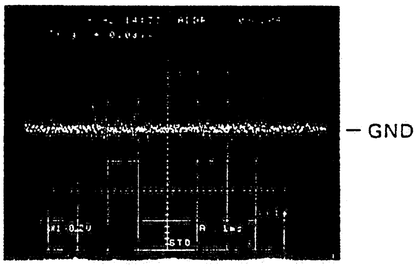
⑧ IC202–Pin9 : PLAY MODE
(CADR)
200mV/div. 2sec/div.



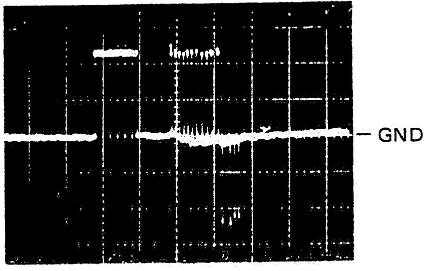
③ TP1–Pin 6 : PLAY MODE
(FOER)
100mV/div. 10msec/div.



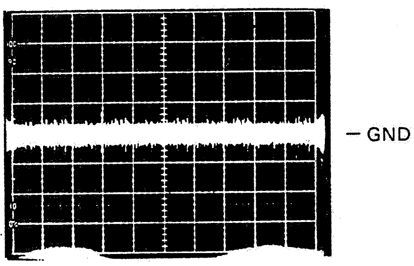
⑥ IC202–Pin3 : PLAY MODE
(TRDR)
500mV/div. 1msec/div.



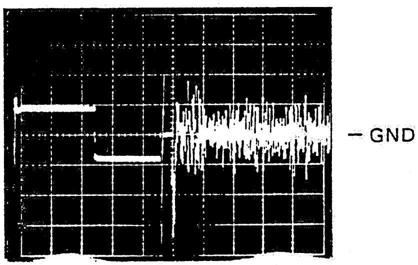
⑧ IC202–Pin9 : TRACK SEARCH MODE
(CADR)
2V/div. 500msec/div.



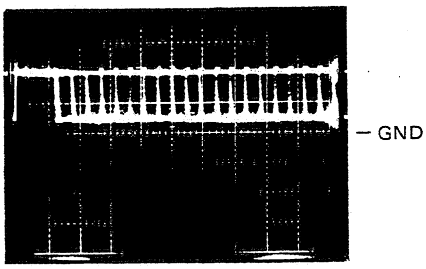
④ TP1–Pin 2 : PLAY MODE
(TRER)
1V/div. 10msec/div.



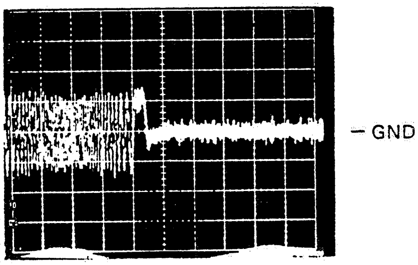
⑥ IC202–Pin3 : 50T–JUMP (*1) MODE
(TRDR)
500mV/div. 1msec/div.



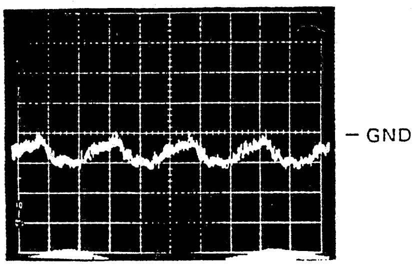
⑨ IC151–Pin32 : PLAY MODE
(EFM)
2V/div. 500nsec/div.



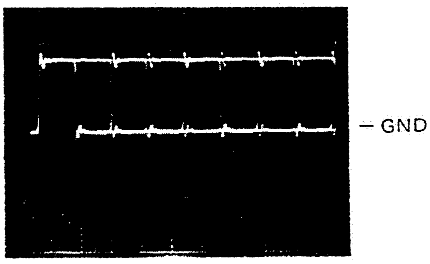
④ TP1–Pin 2 : 50T–JUMP (*1) MODE
(TRER)
1V/div. 1msec/div.



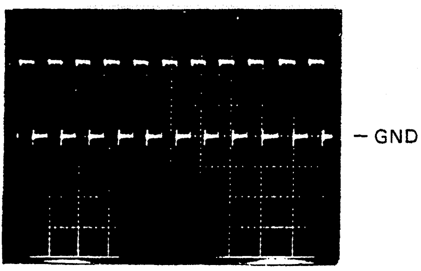
⑦ IC201–Pin3 : PLAY MODE
(SPDR)
1V/div. 50msec/div.



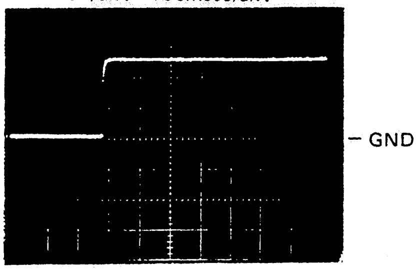
⑩ IC401–Pin9 : PLAY MODE
(LO) (D/A DATA OUT)
2V/div. 0.1μsec/div.



⑯ IC301－Pin35 : PLAY MODE (1kHz)
(BCLK)
2V/div. 500nsec/div.

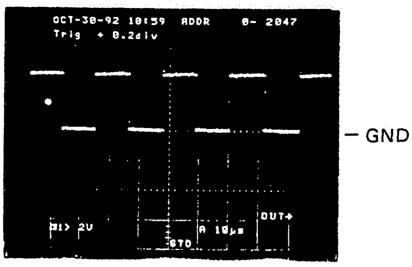


㉒ IC20－Pin9 : POWER SWITCH－ON
(RSET)
2V/div. 100msec/div.

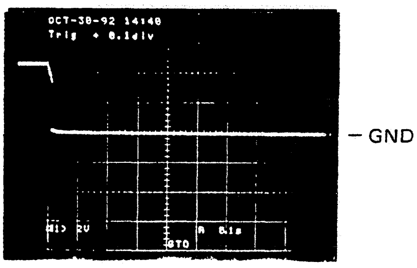


㉖

⑱ IC301－Pin32 : PLAY MODE (1kHz)
(LRCK)
2V/div. 10μsec/div.

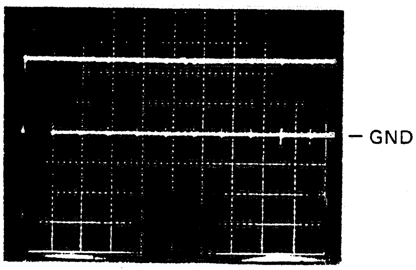


㉒ IC20－Pin9 : POWER SWITCH－OFF
(RSET)
2V/div. 100msec/div.

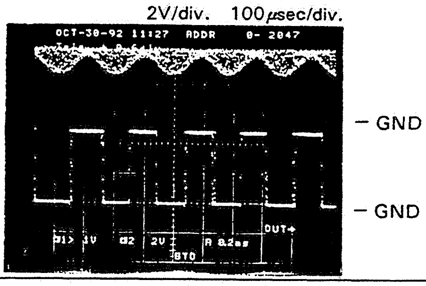


㉗

⑲ IC301－Pin34 : PLAY MODE (1kHz)
(DATA)
2V/div. 500nsec/div.



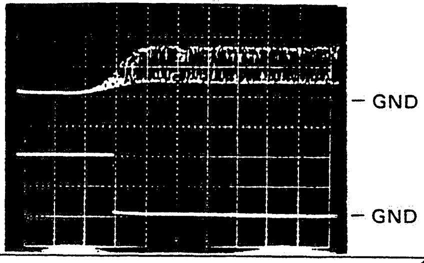
㉓ : TRACK SEARCH MODE
Upper : TP1－Pin1 (RF) 1V/div.
Lower : IC151－Pin29 (MIRR)
2V/div. 100μsec/div.



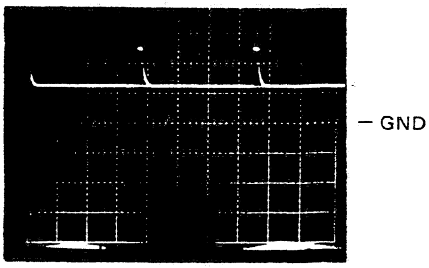
㉘

⑳

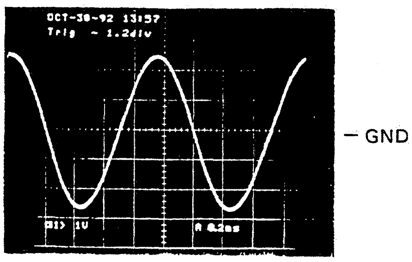
㉔ : PLAY MODE
Upper : TP1－Pin1 (RF) 1V/div.
Lower : IC151－Pin30 (DFCT)
5V/div. 200μsec/div.



㉝ IC301－Pin4 : PLAY MODE
(MDP)
2V/div. 2μsec/div.

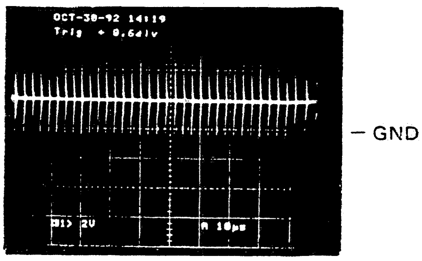


㉑ CN383－Pin1 : PLAY MODE (1kHz)
(Lch OUTPUT)
1V/div. 200μsec/div.

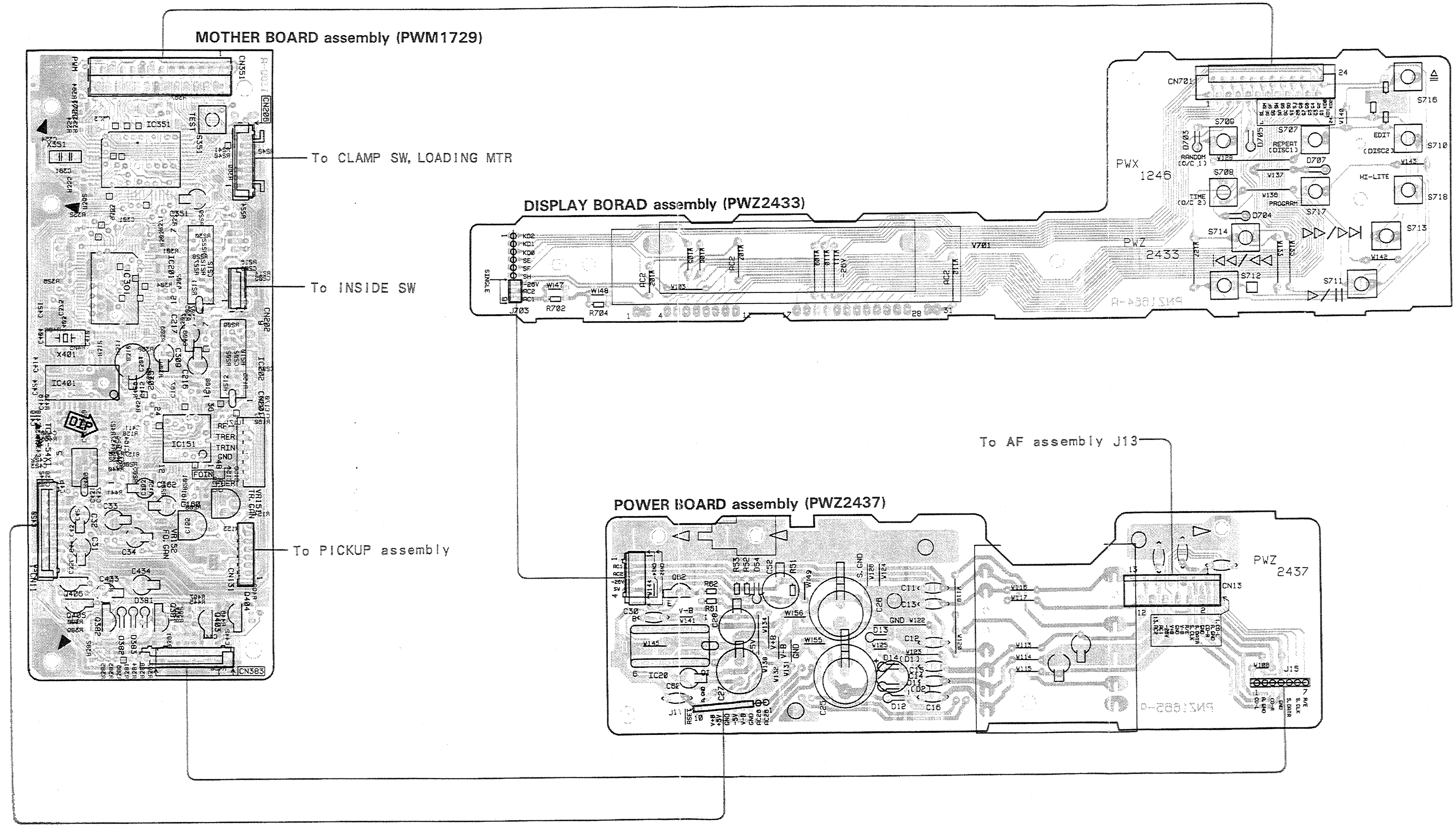


㉕

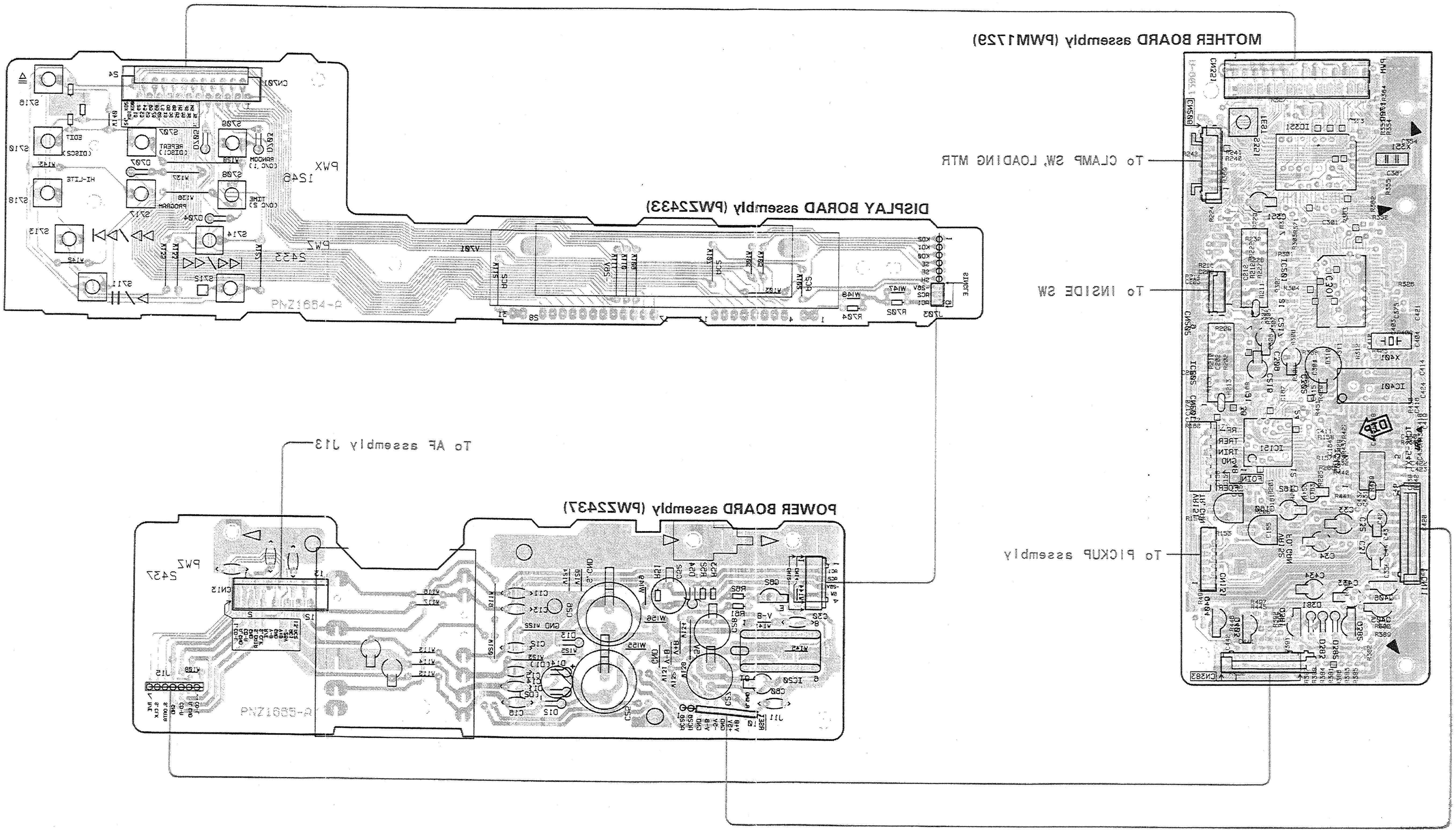
(53) IC301－Pin20 : PLAY MODE
(PCO)
2V/div. 10μsec/div.



This PCB connection diagram is viewd from the parts mounted side.


MOTHER BOARD assembly (PWM1729)
CN351
CN200
To CLAMP SW, LOADING MTR
To INSIDE SW
To PICKUP assembly
IC351
IC301
IC201
IC202
IC401
IC151
CN383
CN101
CN131
VR151 TR.GAN
VR152 FO.GAN
DISPLAY BORAD assembly (PWZ2433)
J703
V701
CN701
PWX 1246
PWZ 2433
S716
S710
S718
S713
S711
S712
S714
S717
S708
S709
S707
RANDOM (D/C 1)
REPEAT (DISC1)
EDIT (DISC2)
HI-LITE
TIME (D/C 2)
PROGRAM
To AF assembly J13
POWER BOARD assembly (PWZ2437)
CN13
J15
J11
IC20
C25
C27
PWZ 2437

This PCB connection diagram is viwed from the foil side.


MOTHER BOARD assembly (PWM1729)
To CLAMP SW, LOADING MTR
To INSIDE SW
To PICKUP assembly
DISPLAY BORAD assembly (PWZ2433)
PWX 1246
PWZ 2433
PNZ1664-A
To AF assembly J13
POWER BOARD assembly (PWZ2437)
PWZ 2437
PNZ1665-A

# 5. PCB PARTS LIST

*NOTES :*

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

*Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).*

*560Ω → 56 × $10^1$ → 561 ······················· RD1/8PM $\boxed{5}\boxed{6}\boxed{1}$ J*
*47kΩ → 47 × $10^3$ → 473 ························ RD1/4PS $\boxed{4}\boxed{7}\boxed{3}$ J*
*0.5Ω → 0R5 ············································ RN2H $\boxed{0}\boxed{R}\boxed{5}$ K*
*1Ω → 010 ·············································· RS1P $\boxed{0}\boxed{1}\boxed{0}$ K*

*Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).*

*5.62kΩ → 562 × $10^1$ → 5621 ·············· RM1/4PC $\boxed{5}\boxed{6}\boxed{2}\boxed{1}$ F*

## 5.1 FOR XD-J115M/HE

### LIST OF ASSEMBLIES

DECK AMP BLOCK

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | | AF ASSEMBLY | AWZ4645 |
| | | VOLUME ASSEMBLY | AWZ4653 |
| | | DISPLAY ASSEMBLY | AWZ4656 |
| | | HEADPHONE ASSEMBLY | AWZ4666 |
| NSP | | TRANS CONNECT ASSEMBLY | AWZ4672 |
| | | SUB TRANS ASSEMBLY | AWZ4678 |
| | | TAPE ASSEMBLY | AWV1335 |
| | | SW ASSEMBLY | AWK1746 |

CD BLOCK

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | | MOTHER BOARD ASSEMBLY | PWM1728 |
| | | POWER BOARD ASSEMBLY | PWZ2442 |
| | | DISPLAY BOARD ASSEMBLY | PWZ2443 |
| NSP | | LOADING BOARD ASSEMBLY | PWZ2038 |
| NSP | | SELECT BOARD ASSEMBLY | PWZ2533 |
| NSP | | MOTOR BOARD ASSEMBLY | PWZ2040 |

### DECK AMP BLOCK

### AF ASSEMBLY

SEMICONDUCTORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | IC1010, IC1202 | | ICP-N10 |
| | IC3101, IC3102 | | LA3607 |
| | IC3103 | | LC7522 |
| | IC1902 | | M51951BSL |
| | IC2101, IC3301 | | MC14052BF |
| | IC2102 | | MC14066BF |
| | IC1001, IC1002 | | MC7812CT |
| | IC1003 | | NJM78M05FAS |
| | IC1006 | | NJM7912FA |
| | IC1005 | | NJM79M05FA |
| | IC1901 | | PD5214A |
| | IC1201 | | STK4150-2G |
| | IC2103, IC2301, IC2501, IC3302, IC3303 | | XRA4558F-P |
| | Q1253, Q1261 | | 2SA1048 |
| | Q1002 | | 2SA1515 |
| | Q1252, Q1254, Q1262, Q1271, Q1272, Q2201, Q2202 | | 2SC2458 |
| | Q2102, Q2103, Q2203 | | XDA143ES |
| | Q1003 | | XDC124ES |
| | Q2101 | | XDC143ES |
| | D1201 | | D3SBA20 (A) |
| | D1001, D1002, D1256, D1258-D1261, D1901-D1903 | | HSS104-02 |
| | D1161, D1162 | | RD5.1ESB2 |
| | D1904, D1911, D1912 | | RD5.6ESB |
| | D1003, D1004, D1011, D1012 | | S5566 |

RELAY

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | RY1251 | | ASR1035 |

COILS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | L1201, L1202 | | ATH-133 |
| | L1901 | | LAU221K |

CAPACITORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | C1003, C1201, C1202 | (2200/42) | ACH1109 |
| | C2305, C2306 | | CCSQCH101J50 |
| | C3307 | | CCSQCH102J50 |
| | C3129, C3130 | | CCSQCH221J50 |
| | C3125, C3126, C3305, C3306 | | CCSQCH681J50 |
| | C3140, C3141 | | CCSQSL101J50 |
| | C1204 | | CEANP100M100 |
| | C1252, C1904 | | CEAS010M50 |
| | C1261, C2103, C2104 | | CEAS100M50 |
| | C3135, C3136 | | CEAS101M10 |
| | C1903 | | CEAS101M16 |
| | C1209-C1212 | | CEAS101M50 |
| | C1004 | | CEAS102M35 |
| | C1005, C1006, C1011, C1205, C1206, C3311, C3312 | | CEAS220M25 |

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | C1271 | | CEAS221M16 |
| | C1009, C1010 | | CEAS222M25 |
| | C2309, C2310, C2315, C2316, C3131−C3134, C3301, C3302 | | CEAS2R2M50 |
| | C2317, C2318 | | CEAS330M25 |
| | C3113, C3114, C3119, C3120 | | CEASR15M50 |
| | C3117, C3118 | | CEASR47M50 |
| | C1007, C1008 | | CEHAQ220M16 |
| | C1901, C1902, C1910 | | CKCYF473Z50 |
| | C3109, C3110, C3115, C3116 | | CKCYX683M25 |
| | C1207, C1208 | | CKPUYX182M16 |
| | C1905−C1909 | | CKSQYB102K50 |
| | C2311, C2312 | | CKSQYB152K50 |
| | C3121, C3122, C3127, C3128 | | CKSQYB182K50 |
| | C3105, C3106, C3111, C3112 | | CKSQYB273K50 |
| | C3103, C3104, C3123, C3124 | | CKSQYB472K50 |
| | C2313, C2314 | | CKSQYB562K50 |
| | C3101, C3102, C3107, C3108 | | CKSQYF103Z50 |
| | C3137, C3138, C3142 | | CKSQYF473Z50 |
| | C1215−C1218 | | CQMA473J50 |

RESISTORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | R1007−R1010 | | RD1/2PMFL100J |
| | R1254 | | RD1/4PM153J |
| | R1256 | | RD1/4PM243J |
| | R1015 | | RD1/4PM331J |
| | R1213, R1214 | | RD1/4PM4R7J |
| | R1211, R1212 | | RD1/4PM561J |
| | R1207, R1208 | | RD1/4PM563J |
| | R2317, R2318 | | RD1/4PM820J |
| | R1215, R1216 | | RD1/4PMFL100J |
| | R1209, R1210 | | RD1/4PMFL101J |
| | R3651, R3652 | | RS1/10S000J |
| | R2313, R2314 | | RS1/10S101J |
| | R2303, R2304, R3315−R3318 | | RS1/10S102J |
| | R1927, R2113−R2117, R2213, R2114, R3105, R3106, R3130, R3131 | | RS1/10S103J |
| | R2108, R2315, R2316, R3301, R3302, R3503, R3504 | | RS1/10S104J |
| | R3111−R3126 | | RS1/10S105J |
| | R2311, R2312 | | RS1/10S122J |
| | R2101, R2102, R3103, R3104 | | RS1/10S123J |
| | R2103, R2104 | | RS1/10S133J |
| | R3307−R3312 | | RS1/10S152J |
| | R2507, R2508 | | RS1/10S153J |
| | R2215, R2216 | | RS1/10S203J |
| | R2201, R2202, R2301, R2302 | | RS1/10S221J |
| | R1904−R1908 | | RS1/10S222J |
| | R2105, R2106 | | RS1/10S332J |
| | R3305, R3306 | | RS1/10S333J |
| | R2501, R2502 | | RS1/10S392J |
| | R2109, R2110, R3511, R3512 | | RS1/10S472J |
| | R2107, R2305−R2308, R3101, R3102 | | RS1/10S473J |
| | R2309, R2310 | | RS1/10S474J |
| | R1918, R1919 | | RS1/10S563J |
| | R2503, R2504 | | RS1/10S682J |
| | R3109, R3110 | | RS1/10S823J |

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | R1261, R1262 | | RS2LMFR22J |
| | | Other Resistors | RD1/8PM□□□J |

OTHERS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | X1901 | (8.00MHz) | ASS1015 |
| | | 6P PIN JACK | AKB1121 |
| | | 2P PIN JACK | AKB1146 |
| | | 4P SPEAKER TERMINAL | AKE1012 |
| | | DC JACK | AKN−203 |
| | | 14P SOCKET | AKP1048 |
| | CN112 | 40P SOCKET | AKP1085 |
| | CN105 | 36P SOCKET | AKP1105 |
| | CN106 | 7P JUMPER CONNECTOR | KPE7 |
| | | SCREW | BBZ30P080FZK |

## VOLUME ASSEMBLY

SEMICONDUCTORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | IC1502 | | TA7291S |
| | IC1501 | | XRA4558−P |
| | Q1501, Q1502 | | 2SC2878 |
| | Q1503 | | XDA124ES |

CAPACITORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | C1507, C1508 | | CEAS101M16 |
| | C1501−C1504 | | CEAS220M25 |
| | C1505, C1506 | | CEAS470M25 |
| | C1511 | | CKDYX104M25 |
| | C1509, C1510 | | CKPUYF473Z16 |

RESISTORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | VR1501 | (100k−4B*2) | ACX1053 |
| | R1511, R1512 | | RD1/4PM820J |
| | | Other Resistors | RD1/8PM□□□J |

## DISPLAY ASSEMBLY

SEMICONDUCTORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | IC3702 | | BA3826S |
| | IC3901 | | PDC009A |
| | IC1701, IC1702 | | SN74LS05N |
| | Q3701 | | 2SC2458 |
| | Q3901, Q3902 | | XDC124ES |
| | Q1701, Q1702 | | XDC143ES |
| | D1701−D1704, D1707, D1716 | | AEL1064 |
| | D1705, D1706, D1709−D1713, D1715 | | AEL1065 |
| | D1708, D1714, D1801−D1806, D3702−D3705, D3801−D3806, D3901−D3907 | | HSS104−02 |

SWITCHES

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | S1801, S1802, S1804−S1816, S1818−S1820, S3801, S3802, S3806−S3811, S3813−S3817 | | ASG1034 |
| | S1901 | | ASH1012 |

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| COIL | | | |
| | L3901 | | LAU221K |
| CAPACITORS | | | |
| | C3901 | | ACH1135 |
| | C1901 | | CCCSL100D50 |
| | C3907 | | CEAS100M50 |
| | C3904, C3908 | | CEAS470M10 |
| | C3701, C3702 | | CEJA2R2M50 |
| | C3906 | | CKCYB102K50 |
| | C3703, C3905 | | CKPUYB102K50 |
| | C3902, C3903 | | CKPUYF223Z25 |
| RESISTORS | | | |
| | R3710, R3719 | | RD1/2PM2R2J |
| | | Other Resistors | RD1/8PM□□□J |
| OTHERS | | | |
| | X3901 | (12MHz) | ASS1062 |
| | CN1901 | 40P SOCKET | AKP1085 |
| | V3901 | FL TUBE | AAV1166 |
| | | REMOTE CONTROL SENSOR UNIT | AXX1023 |
| **HEADPHONE ASSEMBLY** | | | |
| SEMICONDUCTORS | | | |
| | IC1231 | | M5216P |
| | Q1231, Q1232 | | 2SC2458 |
| | Q1233 | | XDA124ES |
| CAPACITORS | | | |
| | C1235, C1236 | | CEAS220M25 |
| | C1231 | | CEAS2R2M50 |
| | C1241, C1242 | | CEAS330M25 |
| | C1233, C1234 | | CEAS470M25 |
| | C1232 | | CEJA2R2M50 |
| | C1237, C1238 | | CKPUYB101K50 |
| | C1239, C1240 | | CKPUYB151K50 |
| RESISTORS | | | |
| | R1243, R1244 | | RS1LMF820J |
| | | Other Resistors | RD1/8PM□□□J |
| OTHERS | | | |
| | | HEADPHONE JACK | AKN1010 |
| **TRANS CONNECT ASSEMBLY** | | | |
| CAPACITORS | | | |
| | C1158, C1159 | | CQMXA104J100 |

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| **SUB TRANS ASSEMBLY** | | | |
| SEMICONDUCTORS | | | |
| | IC1015 | | ICP−N10 |
| | IC1011, IC1012 | | ICP−N38 |
| | IC1013, IC1014 | | ICP−N75 |
| | IC1152 | | NJM78M12FAS |
| | IC1151 | | NJM78M56FAS |
| | Q1151, Q1153 | | 2SB560 |
| | Q1152 | | 2SC2458 |
| | D1154, D1156, D1159 | | HSS104−02 |
| | D1160 | | RD10ESB |
| | D1151 | | RD15ESB |
| | D1155 | | RD36ESB2 |
| | D1001−D1009, D1152, D1153, D1157, D1158 | | S5566 |
| RELAY | | | |
| | RY1151 | | ASR1027 |
| TRANSFORMER | | | |
| | T1151 | | ATT1219 |
| CAPACITORS | | | |
| | C1101 | (0.01/400) | ACG1003 |
| | C1152, C1157 | | CEAS220M50 |
| | C1153 | | CEAS221M100 |
| | C1156 | | CEAS222M25 |
| | C1151, C1154 | | CEAS470M16 |
| | C1155 | | CEAS470M25 |
| RESISTORS | | | |
| | R1152 | | RD1/4PM273J |
| | R1155, R1556 | | RD1/4PM470J |
| | | Other Resistors | RD1/8PM□□□J |
| OTHERS | | | |
| | CN | 1P AC INLET | AKP1121 |
| **TAPE ASSEMBLY** | | | |
| SEMICONDUCTORS | | | |
| | IC4421 | | CXA1100P |
| | IC4202 | | MC14066BF |
| | IC4302 | | SN74LS05N |
| | IC4121, IC4151 | | UPC4570G2 |
| | IC4201, IC4251, IC4301 | | XRA4558F−P |
| | Q4352, Q4904, Q4906, Q4908, Q4910 | | 2SA1515 |
| | Q4203, Q4204, Q4355, Q4451−Q4454 | | 2SC2458 |
| | Q4205, Q4206, Q4461, Q4462 | | 2SC2878 |
| | Q4353, Q4354 | | 2SC3377 |
| | Q4321, Q4322 | | 2SK373 |
| | Q4207, Q4421, Q4460 | | XDA124ES |
| | Q4208 | | XDA143ES |
| | Q4905, Q4907, Q4909, Q4911 | | XDC124ES |
| | Q4209, Q4351 | | XDC143ES |

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | D4251, D4252, D4321–D4326, D4451,<br>D4452, D4903–D4912 | | HSS104–02 |
| COILS & TRANSFORMERS | | | |
| | F4401, F4402 | | ATF1064 |
| | T4351 | | ATX–043 |
| | L4301, L4302 | | LTA392J |
| | L4303, L4304 | | LTA822J |
| CAPACITORS | | | |
| | C4362 | (2000p/630) | ACE1020 |
| | C4333, C4334 | | CCCSL100D50 |
| | C4354 | | CCCSL221J50 |
| | C4319, C4320 | | CCDSL271K500 |
| | C4123, C4124 | | CCSQCH331J50 |
| | C4252 | | CCSQCH560J50 |
| | C4151, C4152 | | CCSQCH561J50 |
| | C4253, C4303, C4304, C4403, C4404,<br>C4453, C4454 | | CEAS010M50 |
| | C4254 | | CEAS0R1M50 |
| | C4213, C4214, C4358, C4363, C4405,<br>C4406, C4409, C4410 | | CEAS100M50 |
| | C4133, C4134, C4161, C4162, C4402 | | CEAS101M10 |
| | C4455, C4456 | | CEAS220M16 |
| | C4321, C4322 | | CEAS2R2M50 |
| | C4309, C4310 | | CEAS330M16 |
| | C4353 | | CEAS3R3M50 |
| | C4131, C4132, C4159, C4160 | | CEAS470M10 |
| | C4325, C4326, C4361 | | CEAS470M16 |
| | C4129, C4130, C4157, C4158 | | CEAS4R7M50 |
| | C4407, C4408 | | CEASR22M50 |
| | C4307, C4308 | | CFTXA823J50 |
| | C4323, C4324, C4356 | | CKCYB681K50 |
| | C4352, C4360 | | CKCYF103Z50 |
| | C4211, C4212 | | CKSQYB152K50 |
| | C4311, C4312 | | CKSQYB223K50 |
| | C4305, C4306 | | CKSQYB272K50 |
| | C4251 | | CKSQYB473K50 |
| | C4357 | | CQMA123K250 |
| | C4355 | | CQMA153J50 |
| | C4209, C4210 | | CQMA183J50 |
| | C4127, C4128, C4155, C4156 | | CQMA223J50 |
| | C4317, C4318 | | CQMA333J50 |
| | C4351 | | CQMA562K400 |
| | C4313, C4314 | | CQMA822J50 |
| RESISTORS | | | |
| | VR4901, VR4902 | | VRTP6HS103 |
| | VR4121, VR4122, VR4151, VR4152,<br>VR4451, VR4452 | | VRTP6HS202 |
| | VR4351, VR4352 | | VRTP6HS204 |
| | R4449 | | RS1/10S000J |
| | R4129, R4130, R4157, R4158 | | RS1/10S101J |
| | R4315, R4316, R4461, R4462 | | RS1/10S102J |
| | R4201, R4202, R4409, R4416–R4418,<br>R4420, R4422 | | RS1/10S103J |
| | R4307, R4308, R4419 | | RS1/10S104J |
| | R4209, R4210, R4459 | | RS1/10S105J |

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | R4257, R4421 | | RS1/10S123J |
| | R4127, R4128, R4155, R4156 | | RS1/10S124J |
| | R4123, R4124, R4151, R4152, R4219,<br>R4220, R4252 | | RS1/10S154J |
| | R4253 | | RS1/10S181J |
| | R4222, R4321, R4322, R4413, R4414,<br>R4458 | | RS1/10S222J |
| | R4254, R4259 | | RS1/10S223J |
| | R4251 | | RS1/10S224J |
| | R4401, R4402 | | RS1/10S242J |
| | R4407, R4408, R4411, R4412 | | RS1/10S273J |
| | R4319, R4320 | | RS1/10S302J |
| | R4207, R4208 | | RS1/10S332J |
| | R4311, R4312 | | RS1/10S333J |
| | R4403, R4404 | | RS1/10S362J |
| | R4313, R4314 | | RS1/10S393J |
| | R4427 | | RS1/10S433J |
| | R4455, R4456 | | RS1/10S471J |
| | R4215, R4216, R4231, R4450 | | RS1/10S472J |
| | R4218, R4230, R4256, R4258 | | RS1/10S473J |
| | R4255 | | RS1/10S514J |
| | R4125, R4126, R4153, R4154 | | RS1/10S622J |
| | R4325, R4326 | | RS1/10S681J |
| | R4405, R4406, R4463, R4464 | | RS1/10S682J |
| | R4309, R4310 | | RS1/10S683J |
| | R4317, R4318 | | RS1/10S820J |
| | | Other Resistors | RD1/8PM□□□J |
| OTHERS | | | |
| | CN | 36P SOCKET | AKP1105 |

## SW ASSEMBLY

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| SEMICONDUCTORS | | | |
| | IC1 | | TC74HC74AP |
| | Q1–Q3, Q6, Q7 | | XDC124ES |
| | Q4, Q5 | | XDC143ES |
| | D1–D14 | | HSS104–02 |
| CAPACITORS | | | |
| | C4 | | CCCSL101J50 |
| | C5 | | CEANP100M35 |
| | C2, C3 | | CEASR15M50 |
| | C6 | | CEAS101M10 |
| | C1 | | CEAS220M25 |
| RESISTORS | | | |
| | R13 | | RD1/4PM390J |
| | | Other Resistors | RD1/8PM□□□J |

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| **CD BLOCK** | | | |
| **MOTHER BOARD ASSEMBLY** | | | |
| SEMICONDUCTORS | | | |
| | IC151 | | CXA1372Q |
| | IC301 | | CXD2500AQ |
| ⚠ | IC201, IC202 | | LA6520 |
| | IC405 | | NJM4565D−D |
| | IC351 | | PD4439A |
| | IC401 | | TC9237BF |
| | Q361, Q381, Q382 | | 2SC1740S |
| | Q403, Q404 | | 2SD2144S |
| | Q406 | | DTA124ES |
| | Q405 | | DTC124ES |
| | D381−D383 | | 1SS133X |
| SWITCH | | | |
| | S351 | | PSG1006 |
| CAPACITORS | | | |
| | C403, C404 | | CCSQCH180J50 |
| | C435−C438 | | CCSQCH390J50 |
| | C429, C430 | | CCSQCH560J50 |
| | C433, C434 | | CEAS220M25 |
| | C31−C34, C216, C217, C302, C351 | | CEAS330M16 |
| | C160, C162 | | CEAS4R7M50 |
| | C309 | | CEASR47M50 |
| | C157, C164, C167, C169, C202, C203, C205, C206, C212, C308, C354, C375 | | CKSQYB103K50 |
| | C158, C159, C161, C163, C301, C304 | | CKSQYB104K25 |
| | C306, C441, C442 | | CKSQYB152K50 |
| | C155 | | CKSQYB182K50 |
| | C170 | | CKSQYB332K50 |
| | C156, C168 | | CKSQYB333K25 |
| | C171, C172 | | CKSQYB472K50 |
| | C307 | | CKSQYB473K25 |
| | C41−C44, C353, C356, C361, C420 | | CKSQYF103Z50 |
| | C410, C411, C414−C416, C418, C419, C422, C423, C431, C432 | | CKSQYF104Z25 |
| | C421, C424, C426 | | CKSQYF473Z25 |
| RESISTORS | | | |
| | VR151, VR152 | (22k) | RCP1046 |
| | Other Resistors | | RS1/10S☐☐☐J |
| OTHERS | | | |
| | CN131 | 12P FFC CONNECTOR | 12FM−1.0BT |
| | CN201 | 6P TOP POST | B6P−SHF |
| | CN351 | 22P FFC CONNECTOR | HLEM22S |
| | X401 | (16.9344MHz) | PSS1008 |
| | X351 | (4.19MHz) | VSS1014 |

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| **POWER BOARD ASSEMBLY** | | | |
| SEMICONDUCTORS | | | |
| ⚠ | IC20 | | M5298P |
| | Q62 | | 2SC1740S |
| ⚠ | D1, D2 | | 11ES2 |
| CAPACITORS | | | |
| | C60 | | CEAS010M50 |
| | C28 | | CEAS101M10 |
| | C27 | | CEAS102M10 |
| | C11−C16 | | CKCYF103Z50 |
| RESISTORS | | | |
| | | All Resistors | RD1/6PM☐☐☐J |
| OTHERS | | | |
| | CN13 | 13P JUMPER CONNECTOR | KPE13 |
| **DISPLAY BOARD ASSEMBLY** | | | |
| SEMICONDUCTORS | | | |
| | D701−D706 | | 1SS254 |
| SWITCHES | | | |
| | S701−S718 | | PSG1006 |
| OTHERS | | | |
| | CN701 | 22P FFC CONNECTOR | HLEM22R |
| | V701 | FL TUBE | PEL1076 |
| **LOADING BOARD ASSEMBLY** | | | |
| SWITCHES | | | |
| | S601, S602 | PUSH SWITCH | DSG1016 |
| **SELECT BOARD ASSEMBLY** | | | |
| SWITCHES | | | |
| | S604−S606 | PUSH SWITCH | DSG1016 |
| | S603 | DETECTOR SWITCH | PSG1010 |

### MOTOR BOARD ASSEMBLY

*MOTOR BOARD assembly has no service part.*

## 5.2 FOR XD−J110/HE

### LIST OF ASSEMBLIES

DECK AMP BLOCK

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | | AF ASSEMBLY | AWZ4645 |
| | | VOLUME ASSEMBLY | AWZ4653 |
| | | DISPLAY ASSEMBLY | AWZ4656 |
| | | HEAD PHONE ASSEMBLY | AWZ4666 |
| NSP | | TRANS CONNECT ASSEMBLY | AWZ4672 |
| | | SUB TRANS ASSEMBLY | AWZ4678 |
| | | TAPE ASSEMBLY | AWV1335 |
| | | SW ASSEMBLY | AWK1746 |

CD BLOCK

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| ⚠ | | MOTHER BOARD ASSEMBLY | PWM1729 |
| | | DISPLAY BOARD ASSEMBLY | PWZ2433 |
| | | POWER BOARD ASSEMBLY | PWZ2437 |
| NSP | | MECHANISM BOARD ASSEMBLY | PWX1192 |

*NOTE :*
*The DECK AMP BLOCK of XD−J110/HE is the same as that of XD−J115M/HE.*
*Refer to "6.1 FOR XD−J115M/HE".*

### MOTHER BOARD ASSEMBLY

SEMICONDUCTORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | IC151 | | CXA1372Q |
| | IC301 | | CXD2500AQ |
| ⚠ | IC201, IC202 | | LA6520 |
| | IC405 | | NJM4565D−D |
| | IC351 | | PD4446A |
| | IC401 | | TC9237BF |
| | Q381, Q382 | | 2SC1740S |
| | Q403, Q404 | | 2SD2144S |
| | Q406 | | DTA124ES |
| | Q405 | | DTC124ES |
| | D381−D383 | | 1SS133X |

SWITCH

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | S351 | | PSG1006 |

CAPACITORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | C403, C404 | | CCSQCH180J50 |
| | C435−C438 | | CCSQCH390J50 |
| | C429, C430 | | CCSQCH560J50 |
| | C433, R434 | | CEAS220M25 |
| | C31−C34, C216, C217, C302, C351 | | CEAS330M16 |
| | C160, C162 | | CEAS4R7M50 |
| | C309 | | CEASR47M50 |
| | C157, C164, C167, C169, C212, C308, C354, C375 | | CKSQYB103K50 |
| | C158, C159, C161, C163, C301, C304 | | CKSQYB104K25 |
| | C306, C441, C442 | | CKSQYB152K50 |
| | C155 | | CKSQYB182K50 |
| | C170 | | CKSQYB332K50 |
| | C156, C168 | | CKSQYB333K25 |
| | C171, C172 | | CKSQYB472K50 |
| | C307 | | CKSQYB473K25 |
| | C41−C44, C202, C203, C205, C206, C353, C356, C361, C420 | | CKSQYF103Z50 |
| | C410, C411, C414−C416, C418, C419, C422, C423, C431, C432 | | CKSQYF104Z25 |
| | C421, C424, C426 | | CKSQYF473Z25 |

RESISTORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | VR151, VR152 | (22k) | RCP1046 |
| | | Other Resistors | RS1/10S□□□J |

OTHERS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | CN131 | 12P FFC CONNECTOR | 12FM−1.0BT |
| | CN201 | 6P TOP POST | B6P−SHF |
| | CN351 | 24P FFC CONNECTOR | HLEM24S |
| | X401 | (16.9344MHz) | PSS1008 |
| | X351 | (4.19MHz) | VSS1014 |

### DISPLAY BOARD ASSEMBLY

SEMICONDUCTORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | D703−D705, D707 | | 1SS254 |

SWITCHES

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | S707−S714, S716−S718 | | PSG1006 |

OTHERS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | CN701 | 24P FFC CONNECTOR | HLEM24R |
| | V701 | FL TUBE | PEL1062 |

### POWER BOARD ASSEMBLY

SEMICONDUCTORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| ⚠ | IC20 | | M5298P |
| | Q62 | | 2SC1740S |
| ⚠ | D1, D2 | | 11ES2 |

CAPACITORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | C60 | | CEAS010M50 |
| | C28 | | CEAS101M10 |
| | C27 | | CEAS222M6R3 |
| | C11−C16 | | CKCYF103Z50 |

RESISTORS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | | All Resistors | RD1/6PM□□□J |

OTHERS

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | CN13 | 13P JUMPER CONNECTOR | KPE13 |

### MECHANISM BOARD ASSEMBLY

SWITCH

| Mark | No. | Description | Parts No. |
|---|---|---|---|
| | S610 | PUSH SWITCH | DSG1016 |

# 6. ADJUSTMENTS

## 6.1 DECK AMP BLOCK (XD−J115M AND XD−J110)

### 6.1.1 Adjustment of Mechanical Section

- The adjustment location and the measuring location, refer to Fig. 6−4.
- Set the function switch to "TAPE".
- Test tape : STD−301 (3kHz 30min)

1. Adjustment of tape speed

| No. | Mode | Input signal & Test tape | Adjustment location | | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | PLAY | Playback the STD-301 tape to 3kHz. | Deck I | TAPE assembly VR4901 | JP−L (Lch) | Press the PLAY button and adjust the frequency to 3010Hz ±10Hz. Make sure that the wow and flutter is 3010Hz ±55Hz. | |
| 2 | PLAY (Double speed mode) | | | — | | Press the PLAY button in double speed mode and confirm that the frequency is 6000Hz ±1000Hz. Note down the figure. | Release the double speed mode after adjustment. |
| 3 | PLAY (Double speed mode) | | Deck II | TAPE assembly VR4903 | JP−L (Lch) | Press the PLAY button in double speed mode and adjust the frequency to be within ±30Hz of the figure recorded at step No. 2. | Release the double speed mode after adjustment. |
| 4 | PLAY | | | TAPE assembly VR4902 | | Press the PLAY button and adjust the frequency to 3010Hz ±10Hz. Make sure that the wow and flutter is 3010Hz ±55Hz. | |

Double-speed mode : The double-speed mode can be entered by short circuiting the line between TP4901 and TP4902. The mode is canceled by opening the short circuited line and switching the power to OFF.

### 6.1.2 Adjustment of Electrical Section

■ **Check and conduct the following before adjusting the electric section.**

1. Adjustment of tape speed has been completed.
2. Clean and demagnetize the head using a head eraser.
3. When measured, the level should be 0dBV = 1Vrms.
4. Use side A of the specified tape for adjustment.
   STD−331E : For adjustment of playback system.
   STD−631 : NORMAL blank tape
5. Prepare the following measuring devices :
   - AC millivoltmeter
   - Low-frequency oscillator
   - Attenuator
   - Oscilloscope
6. Adjust both L and R channels, unless specified otherwise.
7. Set the DOLBY NR switches to OFF, unless specified otherwise.
8. Warm up the unit for several minutes before adjustment. Especially before adjusting the frequency characteristics of recording and playback, warm up for 3 to 5 minutes in REC/PLAY mode.
9. Make sure to follow the proper order of the adjustment procedure. Any change in the order may cause an improper result.

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■ **List of Adjustment**

Deck I
1. Head azimuth adjustment
2. Playback level adjustment

Deck II
1. Head azimuth adjustment
2. Playback level adjustment
3. Bias oscillation frequency adjustment
4. Recording level adjustment
5. Adjustment of frequency characteristics of recording/playback

**As the reference recording level is 250nwb/m for STD−331E, the recording level will be higher by 4 dB for STD−331B (160nwb/m). When adjusting, pay carefull attention to the type of tape used.*

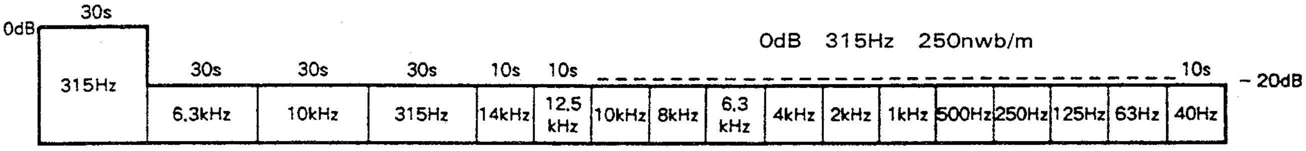
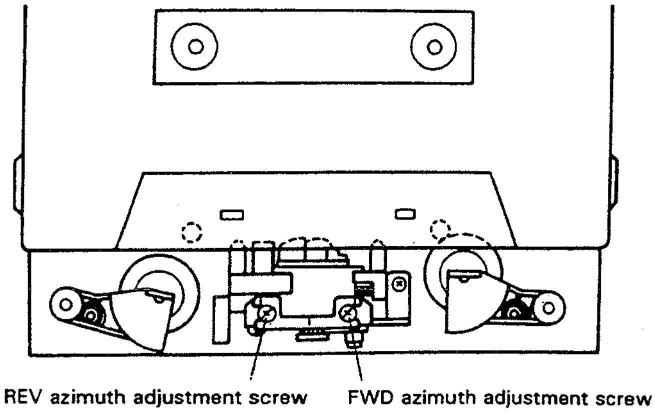

0dB
30s
315Hz
0dB 315Hz 250nwb/m
30s
30s
30s
10s
10s
10s
– 20dB
6.3kHz
10kHz
315Hz
14kHz
12.5 kHz
10kHz
8kHz
6.3 kHz
4kHz
2kHz
1kHz
500Hz
250Hz
125Hz
63Hz
40Hz

Fig. 6–1 Test Tape STD–331E


REV azimuth adjustment screw
FWD azimuth adjustment screw

*NOTE : Before adjusting, remove the deck panel.*

Fig. 6–2 Head Azimuth Adjustment

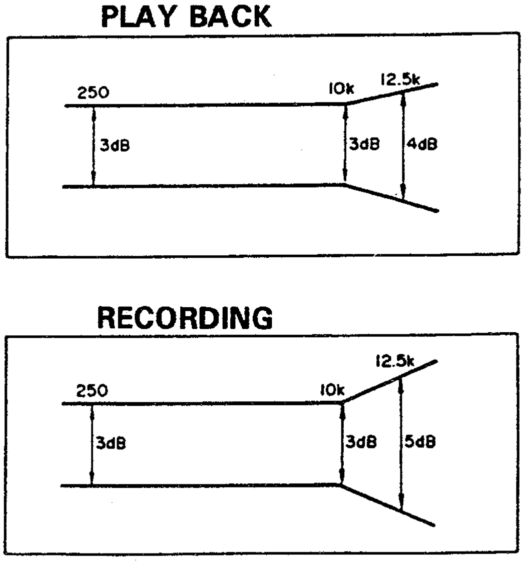


Fig. 6–3 Frequency Characteristics

## ■ Head Adjustment of Deck I

- Deck I is provided with an automatic tape selector mechanism.
- Note : Do not switch over FWD and REV while the screw driver is inserted.

### 1. Head Azimuth Adjustment

| Pro-cedure | Tape selector (Auto) | Mode | Input signal/test tape | Adjustment location | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | NORM | PLAY | Playback the test tape STD–331E (10kHz, –20dB). | Head azimuth adjustment screw (Fig. 6–2) | TAPE assembly<br>JP–L (Lch)<br>JP–R (Rch) | Maximum playback signal level. | Lock the screw with screw lock after completing adjustment. |

### 2. Playback Level Adjustment

- Be sure to make a careful adjustment, as the adjustment determines the DOLBY NR level for playback.

| Pro-cedure | Tape selector (Auto) | Mode | Input signal/test tape | Adjustment location | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | NORM | PLAY | Playback the test tape STD–331E (315Hz, 0dB). | TAPE assembly<br>VR4151 (Lch)<br>VR4152 (Rch) | TAPE assembly<br>JP–L (Lch)<br>JP–R (Rch) | –6.3dBV | |

## Head Adjustment of Deck II

- Deck II is provided with an automatic tape selector mechanism.
- Note : Do not switch over FWD and REV while the screw driver is inserted.

### 1. Head Azimuth Adjustment

| Pro-cedure | Tape selector (Auto) | Mode | Input signal/test tape | Adjustment location | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | NORM | PLAY | Playback the test tape STD−331E (10kHz, −20dB). | Head azimuth adjustment screw (Fig. 6−2) | TAPE assembly<br>JP−L (Lch)<br>JP−R (Rch) | Maximum playback signal level. | Lock the screw with screw lock after completing adjustment. |

### 2. Playback Level Adjustment

- Be sure to make a careful adjustment, as the adjustment determines the DOLBY NR level for playback.

| Pro-cedure | Tape selector (Auto) | Mode | Input signal/test tape | Adjustment location | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | NORM | PLAY | Playback the test tape STD−331E (315Hz, 0dB). | TAPE assembly<br>VR4121 (Lch)<br>VR4122 (Rch) | TAPE assembly<br>JP−L (Lch)<br>JP−R (Rch) | −6.3dBV | |

### 3. Bias Oscillation Frequency Adjustment

| Pro-cedure | Tape selector (Auto) | Mode | Input signal/test tape | Adjustment location | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | NORM | REC | Load the test tape STD−631 and set to record mode. | TAPE assembly T4351 | Area between Ⓐ and Ⓑ (TAPE assembly) shown in Fig. 6−4. | The oscillation frequency is 105kHz ±5kHz. | |

### 4. Recording Level Adjustment

| Pro-cedure | Tape selector (Auto) | Mode | Input signal/test tape | Adjustment location | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | NORM | REC | Apply a signal of 315Hz to the VCR input terminal and set the function to "VCR". | Input signal level | TAPE assembly<br>JP−L (Lch)<br>JP−R (Rch) | −10.3dBV | |
| 2 | NORM | REC/ PLAY | Record and playback the test tape STD-631 (315Hz). | TAPE assembly<br>VR4451 (Lch)<br>VR4452 (Rch) | TAPE assembly<br>JP−L (Lch)<br>JP−R (Rch) | Repeat the recording/playback, and make adjustment so that the playback level of 315Hz is −10.3dBV. | |

## 5. Adjustment of Frequency Characteristics of Recording/playback

- As this procedure is for adjustment of the recording bias, be careful not to increase the distortion by underadjusting the bias.

| Pro-cedure | Tape selector (Auto) | Mode | Input signal/test tape | Adjustment location | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | NORM | REC | Apply a signal of 315Hz to the VCR input terminal and set the function to "VCR". | Input signal level | TAPE assembly<br>JP-L (Lch)<br>JP-R (Rch) | −30.3dBV | |
| 2 | NORM | REC/ PLAY | Record and playback the test tape STD-631 (315Hz and 10kHz). | TAPE assembly<br>VR4351 (Lch)<br>VR4352 (Rch) | TAPE assembly<br>JP-L (Lch)<br>JP-R (Rch) | Repeat the recording/playback, and make adjustment so that the playback level of 10kHz remains 0 ±0.5dB in relation to 315Hz. | |

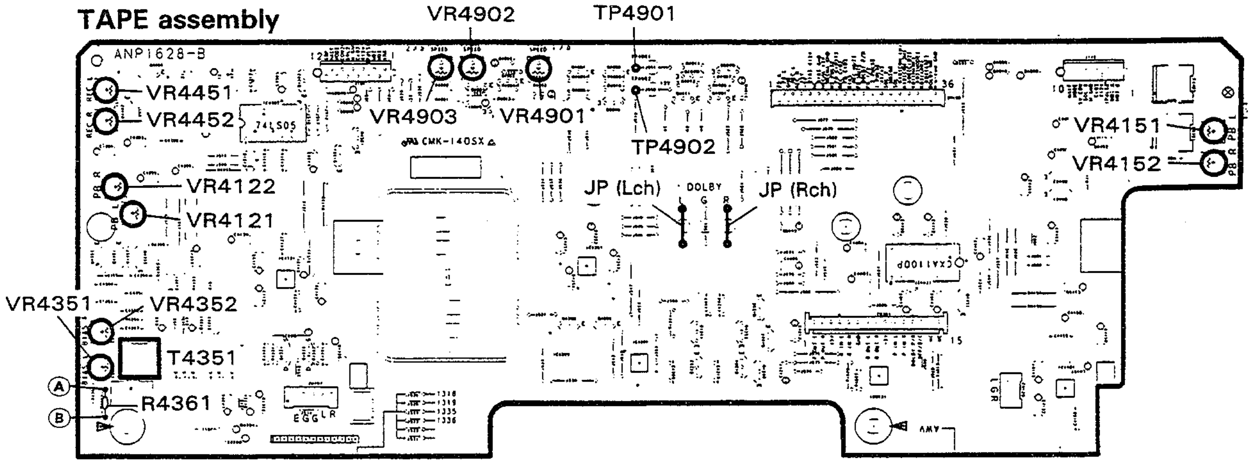

TAPE assembly
VR4902
TP4901
ANP1628-B
VR4451
VR4452
VR4903
VR4901
TP4902
CMK-140SX
VR4151
VR4152
VR4122
VR4121
JP (Lch)
DOLBY
JP (Rch)
VR4351
VR4352
T4351
R4361
A
B

Fig. 6−4 Adjustment Points

## 6.2 CD BLOCK

### 6.2.1 Multi CD Unit (For XD−J115M)

If a disc player is adjusted incorrectly or inadequately, it may malfunction or not work at all even though there is nothing at all wrong with the pickup or the circuitry. Adjust correctly following the adjustment procedure.

### ● Adjustment Items/Verification Items and Order

If the specified values cannot be obtained or no adjustment is possible by performing the verifications or adjustments described in steps 1 − 4, the pickup block may be defective.

| Step | Item | Test Point | Adjustment Location |
|---|---|---|---|
| 1 | Focus offset verification | TP1, Pin 6 (FCS. ERR) | None |
| 2 | Tracking error balance verification | TP1, Pin 2 (TRK. ERR) | None |
| 3 | Pickup radial/tangential direction tilt adjustment | TP1, Pin 1 (RF) | Radial tilt adjustment screw,<br>Tangential tilt adjustment screw |
| 4 | RF level verification | TP1, Pin 1 (RF) | None |
| 5 | Focus servo loop gain adjustment | TP1, Pin 5 (FCS. IN)<br>TP1, Pin 6 (FCS. ERR) | VR152 (FCS. GAN) |
| 6 | Tracking servo loop gain adjustment | TP1, Pin 3 (TRK. IN)<br>TP1, Pin 2 (TRK. ERR) | VR151 (TRK. GAN) |

**● Abbreviation table**

FCS. ERR :Focus Error
TRK. ERR :Tracking Error
FCS GAN :Focus Gain
TRK GAN :Tracking Gain
FCS. IN :Focus In
TRK. IN :Tracking In

### ● Measuring Instruments and Tools

1. Dual trace oscilloscope (10:1 probe)
2. Low-frequency oscillator
3. Test disc (YEDS-7)
4. Low pass filter ( 39kΩ +0.001 μF )
5. Resistor (100 kΩ )
6. Standard tools

**[Release from test mode]**

Here is the procedure for releasing the test mode:

1. Press the STOP key and stop all operations.
2. Turn off the power switch of DECK AMP.

**[Operations of the keys in test mode]**

| Code | Key Name | Function In Test Mode | Explanation |
|---|---|---|---|
|  | PGM<br>(PROGRAM) | Focus servo close | The laser diode is lit up and the focus actuator is lifted up, then lowered slowly and the focus servo is closed at the point where the objective lens is focused on the disc.<br>With the player in this state, if you lightly rotate the stopped disc by hand, you can hear the sound the focus servo.<br>If you can hear this sound, the focus servo is operating correctly. If you press this key with no disc mounted, the laser diode lights up, the focus actuator is pulled up, then the actuator is lowered and raised three times and returned to its original position. |
| ▶/❚❚ | PLAY/PAUSE | Spindle servo ON | Starts the spindle motor in the clockwise direction and when the disc rotation reaches the prescribed speed (about 500 rpm at the inner periphery), sets the spindle servo in a closed loop.<br>Be careful. Pressing this key when there is no disc mounted makes the spindle motor run at the maximum speed.<br>If the focus servo does not go correctly into a closed loop or the laser light shines on the mirror section at the outermost periphery of the disc, the same symptom is occurred. |
| ▶/❚❚ | PLAY/PAUSE | Tracking servo close/open | Pressing this key when the focus servo and spindle servo are operating correctly in closed loops puts the tracking servo into a closed loop, displays the track number being played back and the elapsed time on the front panel, and outputs the playback signal.<br>If the elapsed time is not displayed or not counted correctly or the audio is not played back correctly, it may be that the laser is shining on the section with no sound recorded at the outer edge of the disc, that something is out of adjustment, or that there is some other problem.<br>This key is a toggle key and open/close the tracking servo alternately. This key has no effect if no disc is mounted. |

| Code | Key Name | Function in Test Mode | Explanation |
|---|---|---|---|
| ⏮<br>·<br>⏪ | MANUAL / TRACK SEARCH REV | Carriage reverse (inwards) | Moves the pickup position toward the inner diameter of the disc. When this key is pressed with the tracking servo in a closed loop, the tracking servo automatically goes into an open loop. Since the motor does not automatically stop at the mechanical end point in test mode, be careful with this operation. |
| ⏩<br>·<br>⏭ | MANUAL / TRACK SEARCH FWD | Carriage forward (outwards) | Moves the pickup position toward the outer diameter of the disc. When this key is pressed with the tracking servo in a closed loop, the tracking servo automatically goes into an open loop. Since the motor does not automatically stop at the mechanical end point in test mode, be careful with this operation. |
| ■ | STOP | Stop | Initializes and the disc rotation stops.<br>The pickup and disc remain where they are when this key is pressed. |
| ⏏ | EJECT | CD magazine eject | Stores Disc 1 in the CD magazine, then ejects the CD magazine. However, even though the CD magazine is ejected, the pickup does not return to the park position. Even if the CD magazine is mounted again, the pickup remains where it is. |

Note : When inserting the magazine, disc 1 of the magazine is loaded automatically.

**[How to play back a disc in test mode]**

In test mode, since the servos operate independently, playing back a disc requires that you operate the keys in the correct order to close the servos.
Here is the key operation sequence for playing back a disc in test mode.

| | |
|---|---|
| PGM(PROGRAM) | Lights up the laser diode and closes the focus servo. |
| ⇩ | |
| PLAY/PAUSE ▶/⏸ | Starts the spindle motor and closes the spindle servo. |
| ⇩ | |
| PLAY/PAUSE ▶/⏸ | Closes the tracking servo. |

Wait at least 2–3 seconds between each of these operations.

## 1. Focus Offset Verification

| | | | |
|---|---|---|---|
| ● Objective | Verify the DC offset for the focus error amp. | | |
| ● Symptom when out of adjustment | The model does not focus in and the RF signal is dirty. | | |
| ● Measurement instrument connections | Connect the oscilloscope to TP1, Pin 6 (FCS. ERR)<br>[Settings] 5 mV/division<br>10 ms/division<br>DC mode | ● Player state<br>● Adjustment location<br>● Disc | Test mode, stopped (just the Power switch on)<br>None<br>None needed |

**[Procedure]**

Verify the DC voltage at TP1, Pin 6 (FCS. ERR) is 0 ± 50 mV.

Note : If the specified values cannot be obtained or no adjustment is possible by performing the verifications or adjustments described in adjustment items 1 – 4, the pickup block may be defective.

## 2. Tracking Error Balance Verification

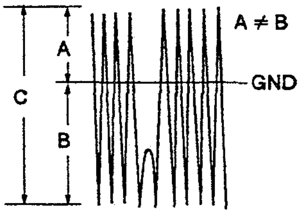
| | | | |
|---|---|---|---|
| ● Objective | To verify that there is no variation in the sensitivity of the tracking photo diode. | | |
| ● Symptom when out of adjustment | Play does not start or track search is impossible. | | |
| ● Measurement instrument connections | Connect the oscilloscope to TP1, Pin 2 (TRK. ERR). This connection may be via a low pass filter.<br>[Settings] 50 mV/division<br>5 ms/division<br>DC mode | ● Player state<br>● Adjustment location<br>● Disc | Test mode, focus and spindle servos closed and tracking servo open<br>None<br>YEDS-7 |

**[Procedure]**

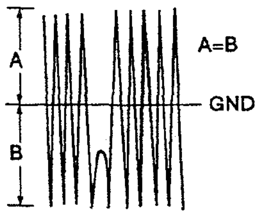
1. Move the pickup to midway across the disc (R=35 mm) with the MANUAL / TRACK SEARCH FWD ▶▶ • ▶▶| or REV |◀◀ • ◀◀ key.
2. Press the PGM (PROGRAM) key, then the PLAY/PAUSE ▶/ ❚❚ key in that order to close the focus servo then the spindle servo.
3. Line up the bright line (ground) at the center of the oscilloscope screen and put the oscilloscope into DC mode.
4. Supposing that the positive amplitude of the tracking error signal at TP1, pin 2 (TRK ERR) is (A) and the negative amplitude is (B), the following expression is satisfied.

When $A \geqq B$ , $\frac{A-B}{C} \times \frac{1}{2} \leqq 0.1$

When $A < B$ , $\frac{B-A}{C} \times \frac{1}{2} \leqq 0.1$



When there is a DC component



When there is no DC component

## 3. Pickup Radial/Tangential Tilt Adjustment

| | | | |
|---|---|---|---|
| ● Objective | To adjust the angle of the pickup relative to the disc so that the laser beams are shone straight down into the disc for the best read out of the RF signals. | | |
| ● Symptom when out of adjustment | Sound broken;some discs can be played but not others. | | |
| ● Measurement instrument connections | Connect the oscilloscope to TP1, Pin 1 (RF). | ● Player state | Test mode, play |
| | [Settings] 20 mV/division<br>200 ns/division<br>AC mode | ● Adjustment location | Pickup radial tilt adjustment screw and tangential tilt adjustment screw |
| | | ● Disc | YEDS-7 |

**[Procedure]**

1. Press the MANUAL / TRACK SEARCH FWD ▶▶ · ▶▶| or REV |◀◀ · ◀◀ key to move the pickup to halfway across the disc (R=35mm).
   Press the PGM (PROGRAM) key, the PLAY/PAUSE ▶/ ❚❚ key twice in that order to close the respective servos and put the player into play mode.
2. First, adjust the radial tilt adjustment screw with a Phillips screwdriver so that the eye pattern (the diamond shape at the center of the RF signal) can be seen the most clearly.
3. Next, adjust the tangential tilt adjustment screw with a Phillips screwdriver so that the eye pattern (the diamond shape at the center of the RF signal) can be seen the most clearly (Figure 3).
4. Adjust the radial tilt adjustment screw and the tangential tilt adjustment screw again so that the eye pattern can be seen the most clearly. As necessary, adjust the two screws alternately so that the eye pattern can be seen the most clearly.
5. When the adjustment is completed, lock the radial and tangential adjustment screw.
   **Note**:Radial and tangential mean the directions relative to the disc shown in Figure 2.

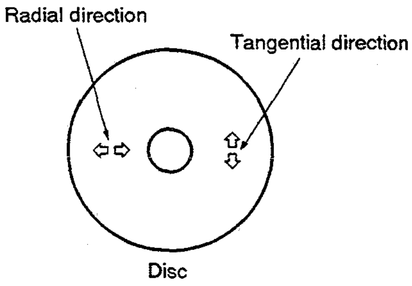
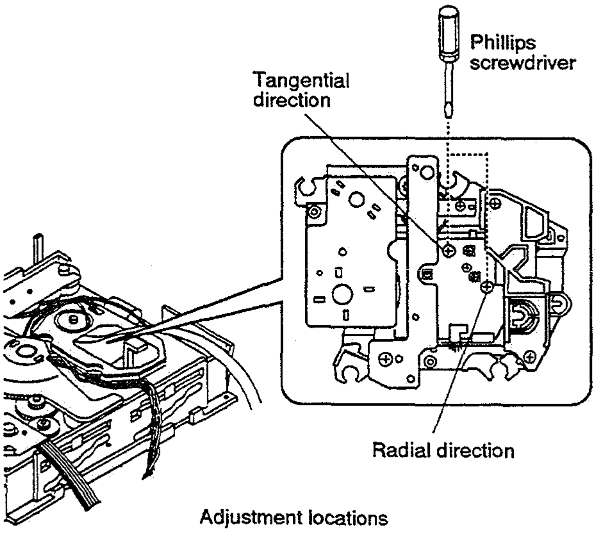


Figure 2



Adjustment locations

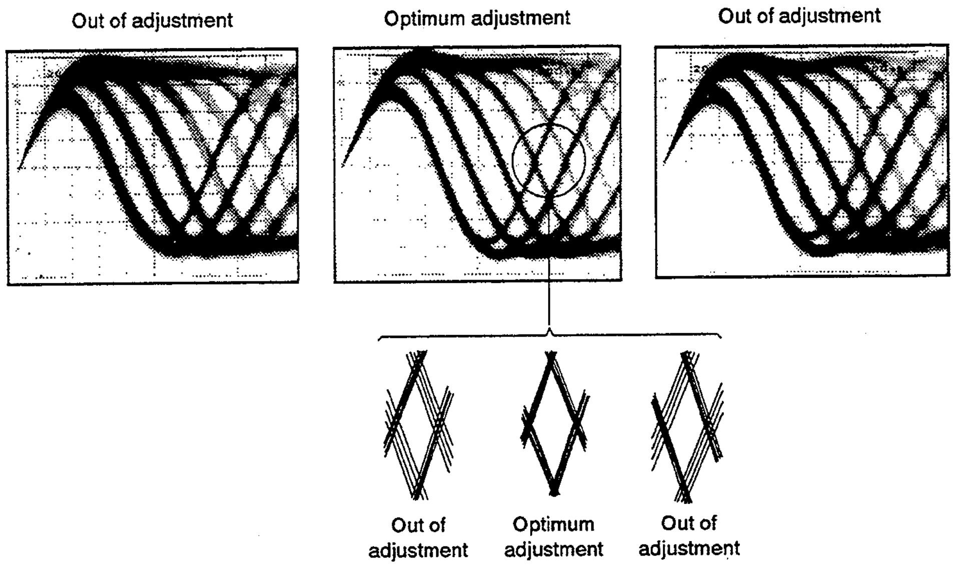

Out of adjustment
Optimum adjustment
Out of adjustment
Out of adjustment
Optimum adjustment
Out of adjustment

Figure 3. Eye pattern

## 4. RF Level Verification

| | | | |
|---|---|---|---|
| ● Objective | To verify the playback RF signal amplitude | | |
| ● Symptom when out of adjustment | No play or no search | | |
| ● Measurement instrument connections | Connect the oscilloscope to TP1, Pin 1 (RF).<br>[Settings] 50 mV/division<br>10 ms/division<br>AC mode | ● Player state | Test mode, play |
| | | ● Adjustment location | None |
| | | ● Disc | YEDS-7 |

**[Procedure]**

1. Move the pickup to midway across the disc (R=35 mm) with the MANUAL / TRACK SEARCH FWD ▶▶ · ▶▶| or REV |◀◀ · ◀◀ key, then press the PGM (PROGRAM) key, the PLAY/PAUSE ▶/❚❚ key twice in that order to close the respective servos and put the player into play mode.
2. Verify the RF signal amplitude is 1.2 Vp-p ± 0.2 V.

## 5. Focus Servo Loop Gain Adjustment

| | | | |
|---|---|---|---|
| ● Objective | To optimize the focus servo loop gain. | | |
| ● Symptom when out of adjustment | Playback does not start or focus actuator noisy. | | |
| ● Measurement instrument connections | See figure 4.<br>[Settings]<br>CH1 CH2<br>20 mV/division 5 mV/division<br>X-Y mode | ● Player state | Test mode, play |
| | | ● Adjustment location | VR152 (FCS. GAN) |
| | | ● Disc | YEDS-7 |

**[Procedure]**

1. Set the AF generator output to 1.2 kHz and 1 Vp-p.
2. Press the MANUAL / TRACK SEARCH FWD ▶▶ • ▶▶| or REV |◀◀ • ◀◀ key to move the pickup to halfway across the disc (R=35 mm), then press the PGM (PROGRAM) key, the PLAY/PAUSE ▶/❙❙ key twice in that order to close the corresponding servos and put the player into play mode.
3. Adjust VR152 (FCS. GAN) so that the Lissajous waveform is symmetrical about the X axis and the Y axis.

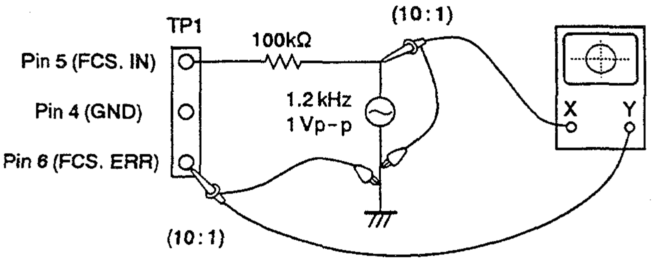
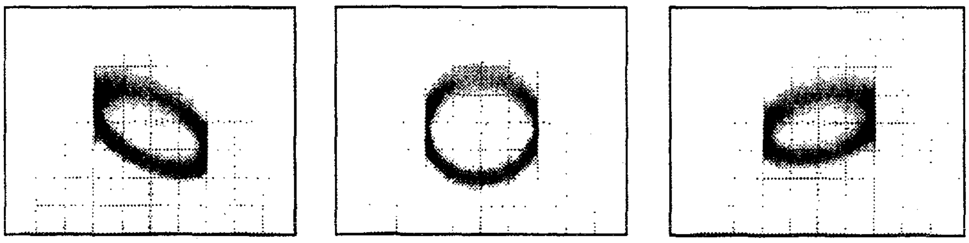


Figure 4

Focus Gain Adjustment



Higher gain

Optimum gain

Lower gain

## 6. Tracking Servo Loop Gain Adjustment

| | | | |
|---|---|---|---|
| ● Objective | To optimize the tracking servo loop gain. | | |
| ● Symptom when out of adjustment | Playback does not start, during searches the actuator is noisy, or tracks are skipped. | | |
| ● Measurement instrument connections | See Figure 5.<br>[Settings]<br>CH1 50 mV/division<br>CH2 20 mV/division<br>X-Y mode | ● Player state<br>● Adjustment location<br>● Disc | Test mode, play<br>VR151 (TRK. GAN)<br>YEDS-7 |

**[Procedure]**

1. Set the AF generator output to 1.2 kHz and 2 Vp-p.
2. Press the MANUAL / TRACK SEARCH FWD ▶▶ · ▶▶| or REV |◀◀ · ◀◀ key to move the pickup to halfway across the disc (R=35 mm), then press the PGM (PROGRAM) key, the PLAY/PAUSE ▶/ ❚❚ key twice in that order to close the corresponding servos and put the player into play mode.
3. Adjust VR151 (TRK. GAN) so that the Lissajous waveform is symmetrical about the X axis and the Y axis.

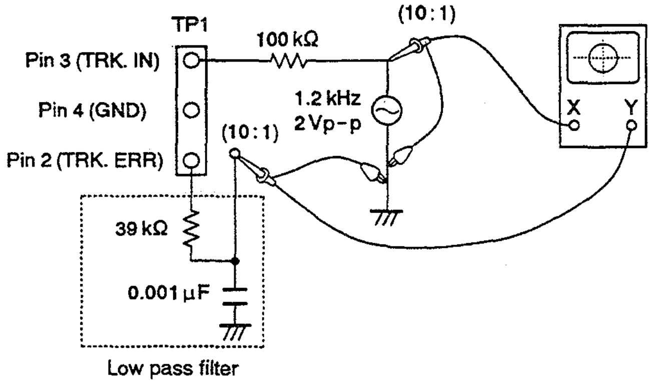
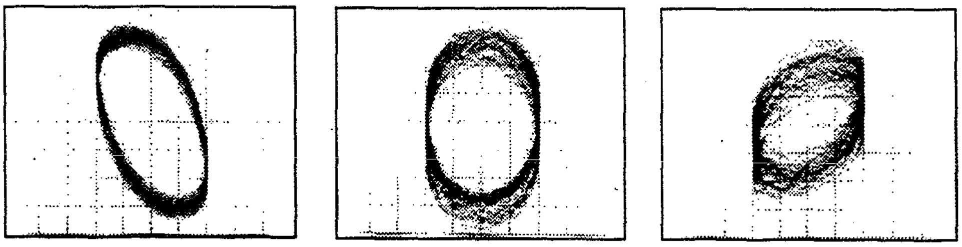


Figure 5

Tracking Gain Adjustment



Higher gain

Optimum gain

Lower gain

### 6.2.2 Single CD Unit (For XD−J110)

## ● Adjustment Methods

If a disc player is adjusted incorrectly or inadequately, it may malfunction or not work at all even though there is nothing at all wrong with the pickup or the circuitry. Adjust correctly following the adjustment procedure.

## ● Adjustment Items/Verification Items and Order

If the specified values cannot be obtained or no adjustment is possible by performing the verifications or adjustments described in steps 1 − 4, the pickup block may be defective.

| Step | Item | Test Point | Adjustment Location |
|---|---|---|---|
| 1 | Focus offset verification | TP1, Pin 6 (FCS. ERR) | None |
| 2 | Tracking error balance verification | TP1, Pin 2 (TRK. ERR) | None |
| 3 | Pickup radial/tangential direction tilt adjustment | TP1, Pin 1 (RF) | Radial tilt adjustment screw,<br>Tangential tilt adjustment screw |
| 4 | RF level verification | TP1, Pin 1 (RF) | None |
| 5 | Focus servo loop gain adjustment | TP1, Pin 5 (FCS. IN)<br>TP1, Pin 6 (FCS. ERR) | VR152 (FCS. GAN) |
| 6 | Tracking servo loop gain adjustment | TP1, Pin 3 (TRK. IN)<br>TP1, Pin 2 (TRK. ERR) | VR151 (TRK. GAN) |

**● Abbreviation table**

| | |
|---|---|
| FCS. ERR | :Focus Error |
| TRK. ERR | :Tracking Error |
| FCS GAN | :Focus Gain |
| TRK GAN | :Tracking Gain |
| FCS. IN | :Focus In |
| TRK. IN | :Tracking In |

## ● Measuring Instruments and Tools

1. Dual trace oscilloscope (10:1 probe)
2. Low-frequency oscillator
3. Test disc (YEDS-7, 8cm disc)
4. Resistor (100 kΩ )
5. Standard tools

## Test Point and Adjustment Variable Resistor Positions

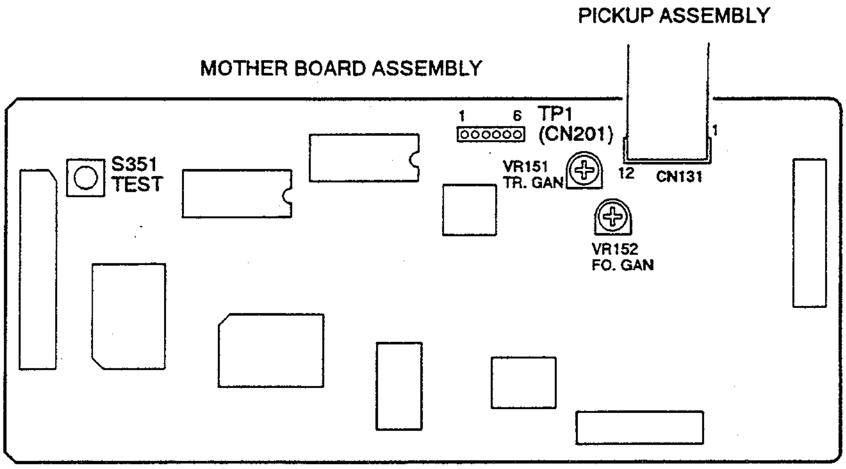


Figure 1. Adjustment Locations

## Notes

1. Use a 10:1 probe for the oscilloscope.
2. All the knob positions (settings) for the oscilloscope in the adjustment procedures are for when a 10:1 probe is used.

## Test Mode

These models have a test mode so that the adjustments and checks required for service can be carried out easily. When these models are in test mode, the keys on the front panel work differently from normal. Adjustments and checks can be carried out by operating these keys with the correct procedure. For these models, all adjustments are carried out in test mode.

**[Setting these models to test mode]**

How to set this model into test mode.

1. Turn off the power switch of DECK AMP.
2. Press the TEST mode switch (S351). (See Figure 1.)
3. Turn on the power switch of DECK AMP.

When the test mode is set correctly, the display is different from what it usually is when the power is turned on.
If the display is still the same as usual, test mode has not been set correctly, so repeat Steps 1 – 3.

**[Release from test mode]**

Here is the procedure for releasing the test mode:

1. Press the STOP key and stop all operations.
2. Turn off the power switch of DECK AMP.

**[Operations of the keys in test mode]**

| Code | Key Name | Function In Test Mode | Explanation |
|---|---|---|---|
| | PROGRAM | Focus servo close | The laser diode is lit up and the focus actuator is lifted up, then lowered slowly and the focus servo is closed at the point where the objective lens is focused on the disc.<br>With the player in this state, if you lightly rotate the stopped disc by hand, you can hear the sound the focus servo.<br>If you can hear this sound, the focus servo is operating correctly. If you press this key with no disc mounted, the laser diode lights up, the focus actuator is pulled up, then the actuator is lowered and raised three times and returned to its original position. |
| ►/❚❚ | PLAY/PAUSE | Spindle servo ON | Starts the spindle motor in the clockwise direction and when the disc rotation reaches the prescribed speed (about 500 rpm at the inner periphery), sets the spindle servo in a closed loop.<br>Be careful. Pressing this key when there is no disc mounted makes the spindle motor run at the maximum speed.<br>If the focus servo does not go correctly into a closed loop or the laser light shines on the mirror section at the outermost periphery of the disc, the same symptom is occurred. |
| ►/❚❚ | PLAY/PAUSE | Tracking servo close/open | Pressing this key when the focus servo and spindle servo are operating correctly in closed loops puts the tracking servo into a closed loop, displays the track number being played back and the elapsed time on the front panel, and outputs the playback signal.<br>If the elapsed time is not displayed or not counted correctly or the audio is not played back correctly, it may be that the laser is shining on the section with no sound recorded at the outer edge of the disc, that something is out of adjustment, or that there is some other problem.<br>This key is a toggle key and open/close the tracking servo alternately. This key has no effect if no disc is mounted. |

| Code | Key Name | Function in Test Mode | Explanation |
|---|---|---|---|
| ⏮•<br>⏪ | MANUAL/ TRACK SEARCH REV | Carriage reverse (inwards) | Moves the pickup position toward the inner diameter of the disc. When this key is pressed with the tracking servo in a closed loop, the tracking servo automatically goes into an open loop. Since the motor does not automatically stop at the mechanical end point in test mode, be careful with this operation. |
| ⏩•<br>⏭ | MANUAL/ TRACK SEARCH FWD | Carriage forward (outwards) | Moves the pickup position toward the outer diameter of the disc. When this key is pressed with the tracking servo in a closed loop, the tracking servo automatically goes into an open loop. Since the motor does not automatically stop at the mechanical end point in test mode, be careful with this operation. |
| ■ | STOP | Stop | Initializes and the disc rotation stops.<br>The pickup and disc remain where they are when this key is pressed. |
| ⏏ | OPEN/CLOSE | Disc tray open / close | Stores Disc 1 in the CD magazine, then ejects the CD magazine. However, even though the CD magazine is ejected, the pickup does not return to the park position. Even if the CD magazine is mounted again, the pickup remains where it is. |

Note : When inserting the magazine, disc 1 of the magazine is loaded automatically.

**[How to play back a disc in test mode]**

In test mode, since the servos operate independently, playing back a disc requires that you operate the keys in the correct order to close the servos.
Here is the key operation sequence for playing back a disc in test mode.

| | |
|---|---|
| PROGRAM | Lights up the laser diode and closes the focus servo. |
| ⇩ | |
| PLAY/PAUSE ▶/❚❚ | Starts the spindle motor and closes the spindle servo. |
| ⇩ | |
| PLAY/PAUSE ▶/❚❚ | Closes the tracking servo. |

Wait at least 2–3 seconds between each of these operations.

## 1. Focus Offset Verification

| | | | |
|---|---|---|---|
| ● Objective | Verify the DC offset for the focus error amp. | | |
| ● Symptom when out of adjustment | The model does not focus in and the RF signal is dirty. | | |
| ● Measurement instrument connections | Connect the oscilloscope to TP1, Pin 6 (FCS. ERR)<br>[Settings] 5 mV/division<br>10 ms/division<br>DC mode | ● Player state | Test mode, stopped<br>(just the Power switch on) |
| | | ● Adjustment location | None |
| | | ● Disc | None needed |

**[Procedure]**

Verify the DC voltage at TP1, Pin 6 (FCS. ERR) is 0 ± 50 mV.

Note : If the specified values cannot be obtained or no adjustment is possible by performing the verifications or adjustments described in adjustment items 1 – 4, the pickup block may be defective.

## 2. Tracking Error Balance Verification

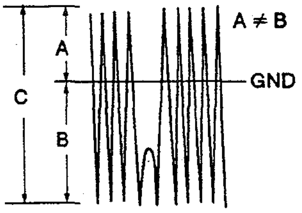
| | | | |
|---|---|---|---|
| ● Objective | To verify that there is no variation in the sensitivity of the tracking photo diode. | | |
| ● Symptom when out of adjustment | Play does not start or track search is impossible. | | |
| ● Measurement instrument connections | Connect the oscilloscope to TP1, Pin 2 (TRK. ERR). This connection may be via a low pass filter.<br>[Settings] 50 mV/division<br>5 ms/division<br>DC mode | ● Player state | Test mode, focus and spindle servos closed and tracking servo open |
| | | ● Adjustment location | None |
| | | ● Disc | YEDS-7 |

**[Procedure]**

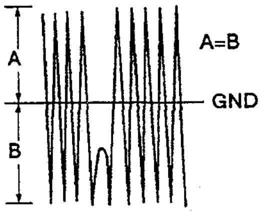
1. Move the pickup to midway across the disc (R=35 mm) with the MANUAL / TRACK SEARCH FWD ▶▶ · ▶▶| or REV |◀◀ · ◀◀ key.
2. Press the PGM (PROGRAM) key, then the PLAY/PAUSE ▶/❚❚ key in that order to close the focus servo then the spindle servo.
3. Line up the bright line (ground) at the center of the oscilloscope screen and put the oscilloscope into DC mode.
4. Supposing that the positive amplitude of the tracking error signal at TP1, pin 2 (TRK ERR) is (A) and the negative amplitude is (B), the following expression is satisfied.

When $A \geqq B$, $\frac{A-B}{C} \times \frac{1}{2} \leqq 0.1$

When $A < B$, $\frac{B-A}{C} \times \frac{1}{2} \leqq 0.1$



When there is a DC component



When there is no DC component

## 2. Tracking Error Balance Verification

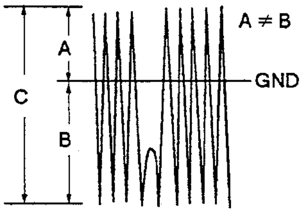
| | | | |
|---|---|---|---|
| ● Objective | To verify that there is no variation in the sensitivity of the tracking photo diode. | | |
| ● Symptom when out of adjustment | Play does not start or track search is impossible. | | |
| ● Measurement instrument connections | Connect the oscilloscope to TP1, Pin 2 (TRK. ERR). This connection may be via a low pass filter.<br>[Settings] 50 mV/division<br>5 ms/division<br>DC mode | ● Player state<br>● Adjustment location<br>● Disc | Test mode, focus and spindle servos closed and tracking servo open<br>None<br>YEDS-7 |

**[Procedure]**

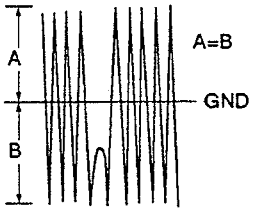
1. Move the pickup to midway across the disc (R=35 mm) with the MANUAL/TRACK SEARCH FWD ►► • ►►| or |◄◄ • ◄◄ key.
2. Press the PROGRAM key, then the PLAY/PAUSE ►/❚❚ key in that order to close the focus servo then the spindle servo.
3. Line up the bright line (ground) at the center of the oscilloscope screen and put the oscilloscope into DC mode.
4. Supposing that the positive amplitude of the tracking error signal at TP1, pin 2 (TRK ERR) is (A) and the negative amplitude is (B), the following expression is satisfied.

$$\text{When } A \geqq B,\ \frac{A-B}{C} \times \frac{1}{2} \leqq 0.1$$

$$\text{When } A < B,\ \frac{B-A}{C} \times \frac{1}{2} \leqq 0.1$$



When there is a DC component



When there is no DC component

## 3. Pickup Radial/Tangential Tilt Adjustment

| | |
|---|---|
| ● Objective | To adjust the angle of the pickup relative to the disc so that the laser beams are shone straight down into the disc for the best read out of the RF signals. |
| ● Symptom when out of adjustment | Sound broken;some discs can be played but not others. |

| | | | |
|---|---|---|---|
| ● Measurement instrument connections | Connect the oscilloscope to TP1, Pin 1 (RF).<br>[Settings] 20 mV/division<br>200 ns/division<br>AC mode | ● Player state | Test mode, play |
| | | ● Adjustment location | Pickup radial tilt adjustment screw and tangential tilt adjustment screw |
| | | ● Disc | 8 cm disc<br>(However, those with approx. 20 min of audio signal (music).) |

**[Procedure]**

1. Press the MANUAL / TRACK SEARCH FWD ▶▶ • ▶▶| or |◀◀ • ◀◀ key to move the pickup to the external circumference of the disc.
   Press the PROGRAM key, the PLAY/PAUSE ▶/❚❚ key, then the PLAY/PAUSE ▶/❚❚ key in that order to close the respective servos and put the player into play mode.
2. First, adjust the radial tilt adjustment screw with a hexagonal wrench so that the eye pattern (the diamond shape at the center of the RF signal) can be seen the most clearly.
3. Next, adjust the tangential tilt adjustment screw with a ball-point type hexagonal wrench so that the eye pattern (the diamond shape at the center of the RF signal) can be seen the most clearly (Figure 3).
   ※ The ball-point type hexagonal wrench is used because the disc will get in the way if a normal hexagonal wrench is used.
4. Adjust the radial tilt adjustment screw and the tangential tilt adjustment screw again so that the eye pattern can be seen the most clearly. As necessary, adjust the two screws alternately so that the eye pattern can be seen the most clearly.
5. When the adjustment is completed, lock the radial and tangential adjustment screw.

**Note**:Radial and tangential mean the directions relati

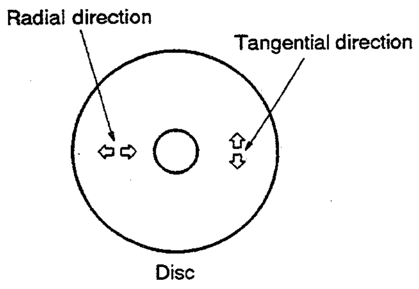
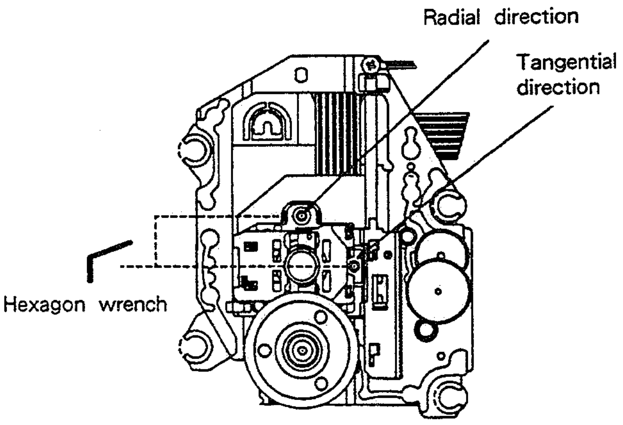


Figure 2



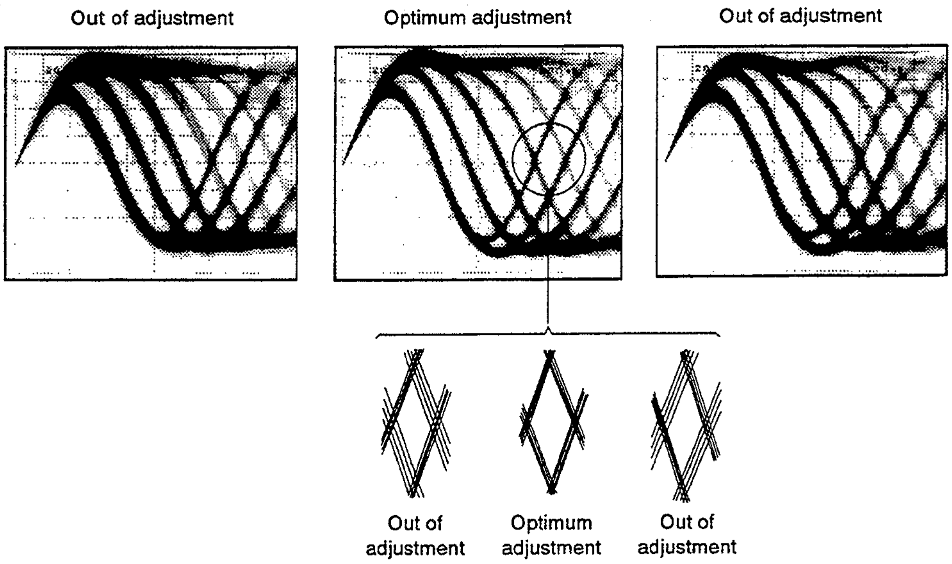

Out of adjustment
Optimum adjustment
Out of adjustment
Out of adjustment
Optimum adjustment
Out of adjustment

Figure 3 Eye pattern

## 4. RF Level Verification

| | | | |
|---|---|---|---|
| ● Objective | To verify the playback RF signal amplitude | | |
| ● Symptom when out of adjustment | No play or no search | | |
| ● Measurement instrument connections | Connect the oscilloscope to TP1, Pin 1 (RF).<br>[Settings] 50 mV/division<br>10 ms/division<br>AC mode | ● Player state<br>● Adjustment location<br>● Disc | Test mode, play<br>None<br>YEDS-7 |

**[Procedure]**

1. Move the pickup to midway across the disc (R=35 mm) with the MANUAL/TRACK SEARCH FWD ▶▶ • ▶▶| or |◀◀ • ◀◀ key, then press the PROGRAM key, the PLAY/PAUSE ▶/❚❚ key, then the PLAY/PAUSE ▶/❚❚ key in that order to close the respective servos and put the player into play mode.
2. Verify the RF signal amplitude is 1.2 Vp-p ± 0.2 V.

## 5. Focus Servo Loop Gain Adjustment

| | | | |
|---|---|---|---|
| ● Objective | To optimize the focus servo loop gain. | | |
| ● Symptom when out of adjustment | Playback does not start or focus actuator noisy. | | |
| ● Measurement instrument connections | See figure 4.<br>[Settings]<br>CH1 CH2<br>20 mV/division 5 mV/division<br>X-Y mode | ● Player state<br>● Adjustment location<br>● Disc | Test mode, play<br>VR152 (FCS. GAN)<br>YEDS-7 |

**[Procedure]**

1. Set the AF generator output to 1.2 kHz and 1 Vp-p.
2. Press the MANUAL/TRACK SEARCH FWD ▶▶ • ▶▶| or |◀◀ • ◀◀ key to move the pickup to halfway across the disc (R=35 mm), then press the PROGRAM key, the PLAY/PAUSE ▶/❚❚ key, then the PLAY/PAUSE ▶/❚❚ key in that order to close the corresponding servos and put the player into play mode.
3. Adjust VR152 (FCS. GAN) so that the Lissajous waveform is symmetrical about the X axis and the Y axis.

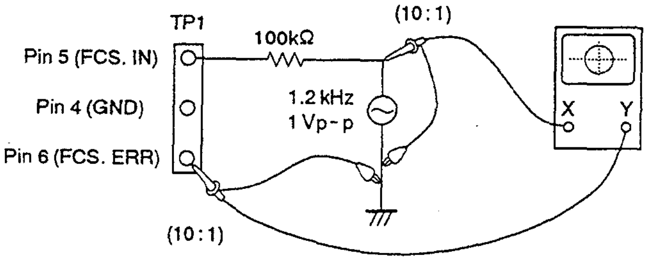
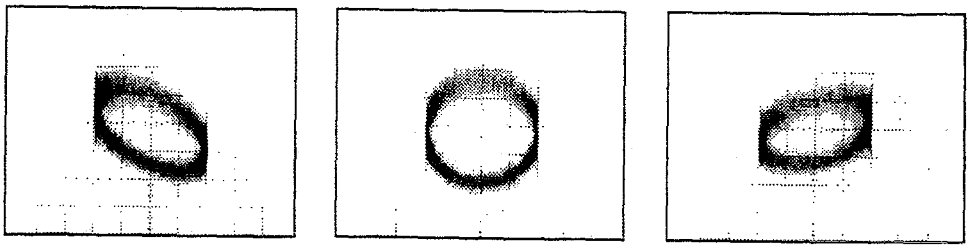


Figure 4

Focus Gain Adjustment



Higher gain

Optimum gain

Lower gain

## 6. Tracking Servo Loop Gain Adjustment

| | |
|---|---|
| ● Objective | To optimize the tracking servo loop gain. |
| ● Symptom when out of adjustment | Playback does not start, during searches the actuator is noisy, or tracks are skipped. |

| | | | |
|---|---|---|---|
| ● Measurement instrument connections | See Figure 5.<br>[Settings]<br>CH1 50 mV/division<br>CH2 20 mV/division<br>X-Y mode | ● Player state<br>● Adjustment location<br>● Disc | Test mode, play<br>VR151 (TRK. GAN)<br>YEDS-7 |

**[Procedure]**

1. Set the AF generator output to 1.2 kHz and 2 Vp-p.
2. Press the MANUAL/TRACK SEARCH FWD ▶▶ • ▶▶| or |◀◀ • ◀◀ key to move the pickup to halfway across the disc (R=35 mm), then press the PROGRAM key, the PLAY/PAUSE ▶/❚❚ key, then the PLAY/PAUSE ▶/❚❚ key in that order to close the corresponding servos and put the player into play mode.
3. Adjust VR151 (TRK. GAN) so that the Lissajous waveform is symmetrical about the X axis and the Y axis.

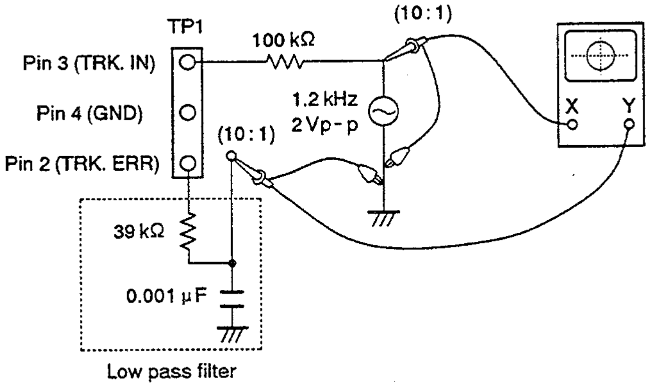
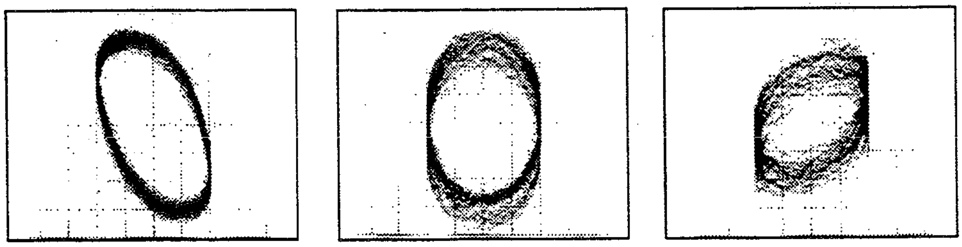


Figure 5

Tracking Gain Adjustment



Higher gain

Optimum gain

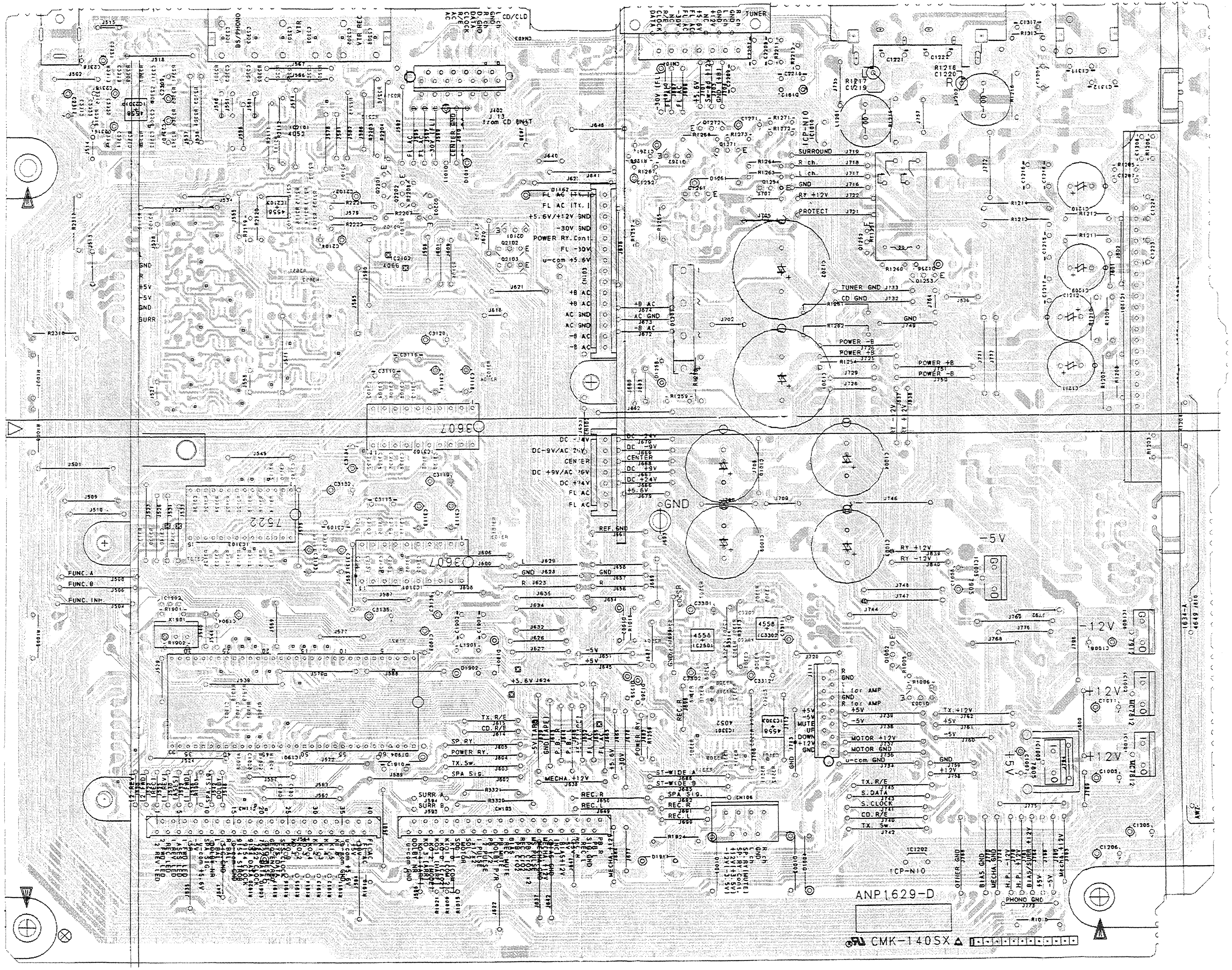
Lower gain

This PCB connection diagram is viewd from the parts mounted side.

IC2301 IC1902 IC2103 IC3103 IC2101 IC1901 Q2201–Q2203 IC2102 IC3102 Q2101–Q2103 IC3101 Q1262 Q1261 Q1272 Q1271 Q1254 IC1010 IC2501 IC3302 IC3301 IC3303 Q1252 Q1253 Q1002 Q1003 IC1202 IC1005 IC1003 IC1201 IC1006 IC1002 IC1001

A B C D

## AF assembly (AWZ4646)


CD/CLD
TUNER
BS/PHONO
VTR
VTR REC
SURROUND
R ch.
L ch.
GND
RY +12V
PROTECT
TUNER GND
CD GND
POWER -B
POWER +B
4556
4052
4066
3607
7522
GND
REF. GND
-5V
-12V
+12V
+12V
+5V
FUNC. A
FUNC. B
FUNC. INH
ICP-N10
ANP1629-D
CMK-140SX

A B C D

This PCB connection diagram is viwed from the foil side.

IC2301

IC2103 IC2101

IC1901 IC3103 IC1902

Q2201-Q2203
IC2102 IC3102 Q2101-Q2103
IC3101

Q1262Q1261Q1272Q1271Q1254IC1010

IC2501 IC3302
IC3301 IC3303

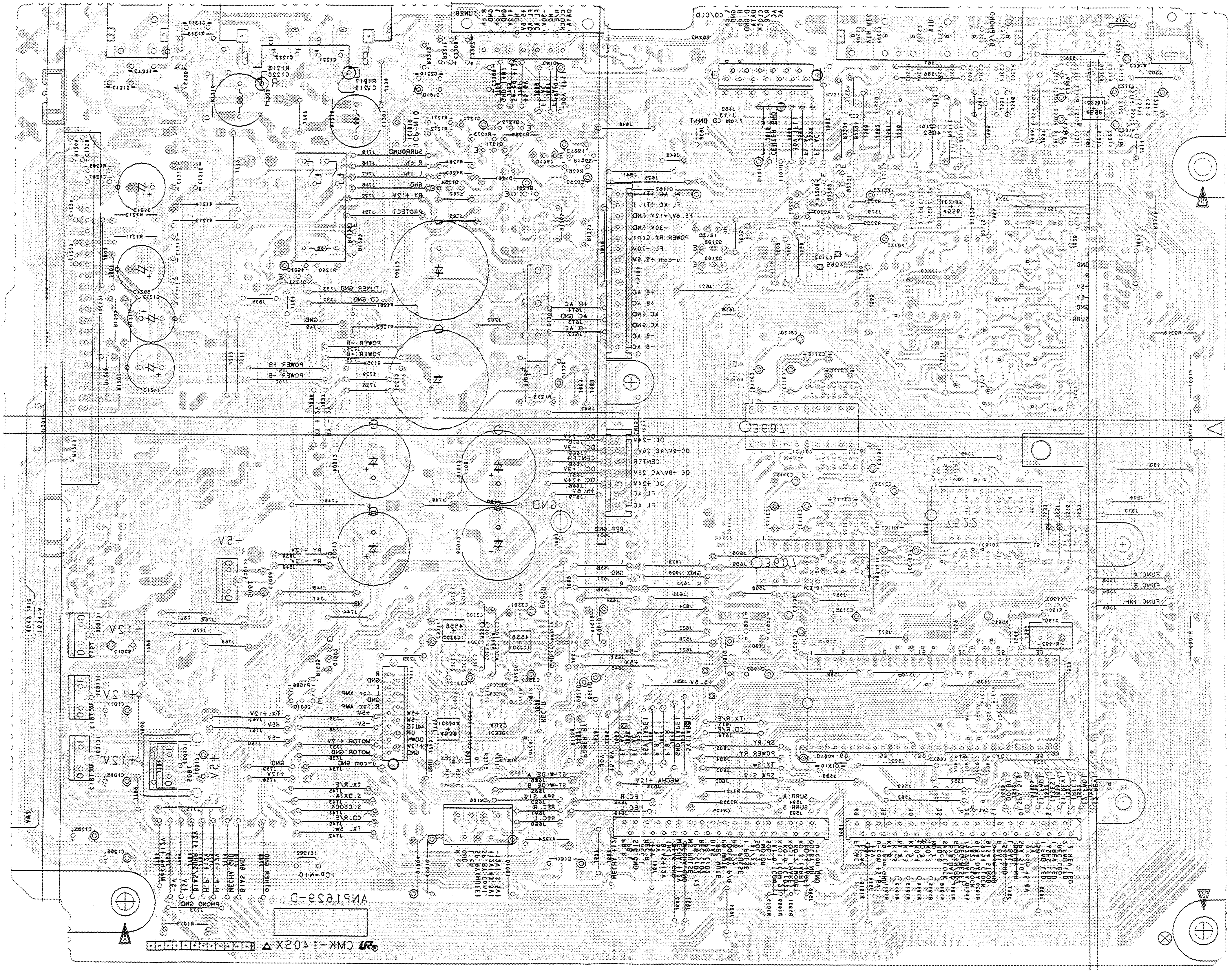
Q1252 Q1253
Q1002 Q1003
IC1202

IC1005

IC1003

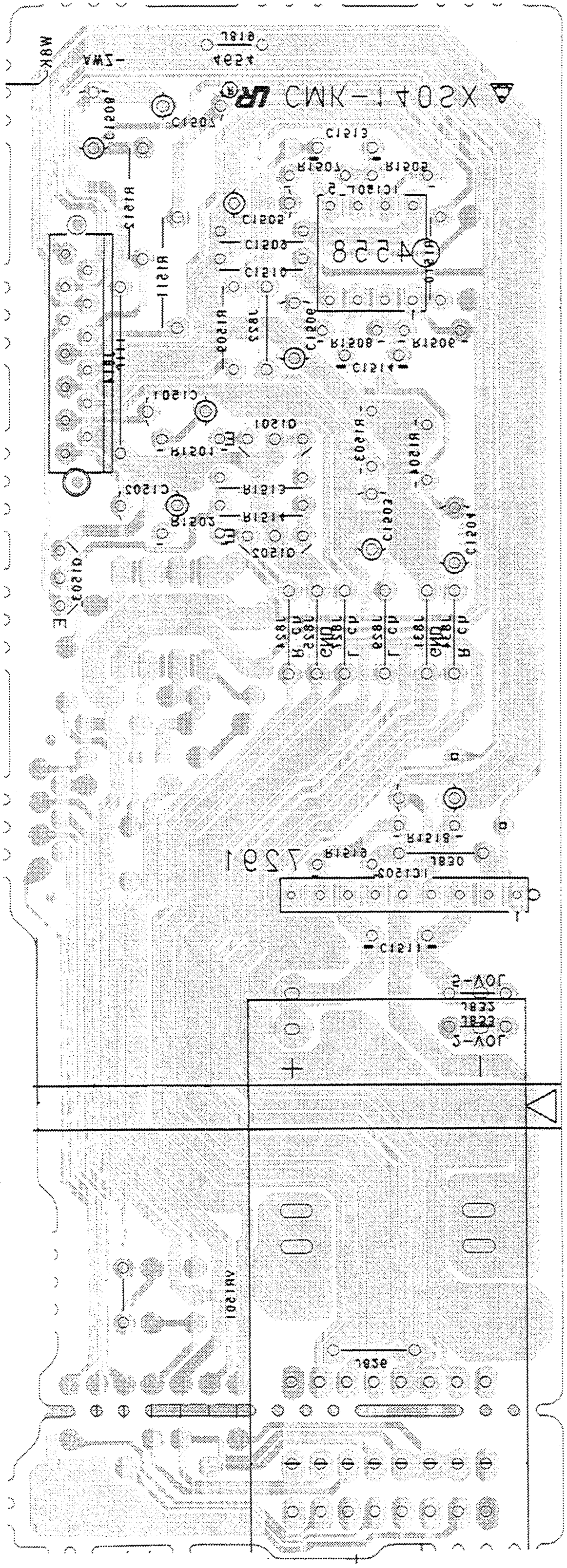
IC1201
IC1006 IC1002
IC1001

## AF assembly (AWZ4646)

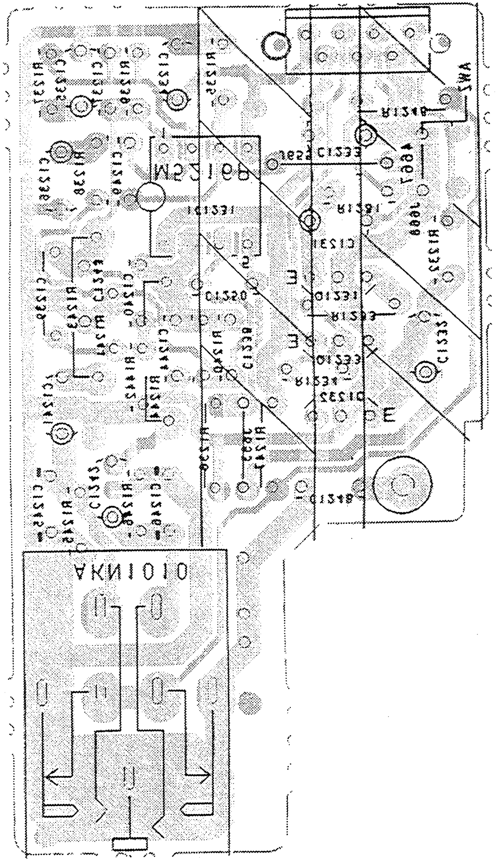


## 7.3.2 HEADPHONE Assembly and VOLUME Assembly

VOLUME assembly (AWZ4654)


CWX-1405X
IC1502
4558
IC1503
7291
VR1501
C1511
R1514
R1515
JOV-5
JOV-2

HEADPHONE assembly (AWZ4667)

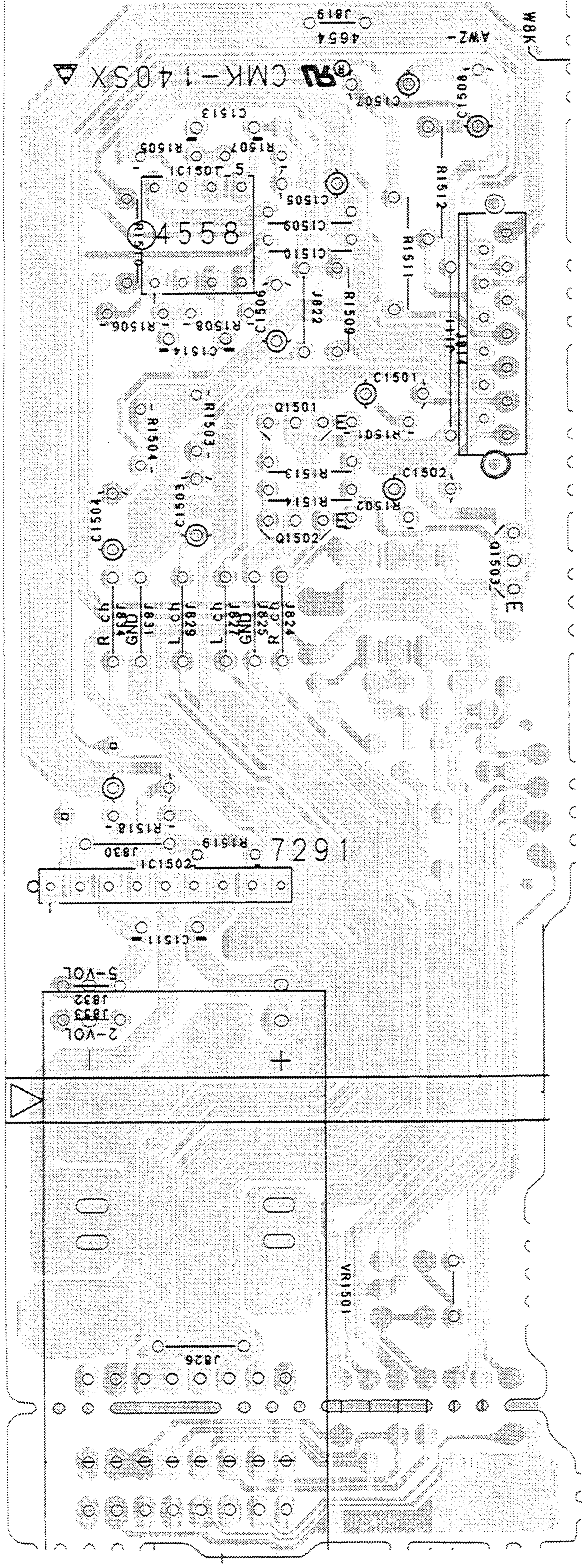

AKN1010
M5219L
AW2
C1248

This PCB connection diagram is viwed from the foil side.

## 7.3.2 HEADPHONE Assembly and VOLUME Assembly

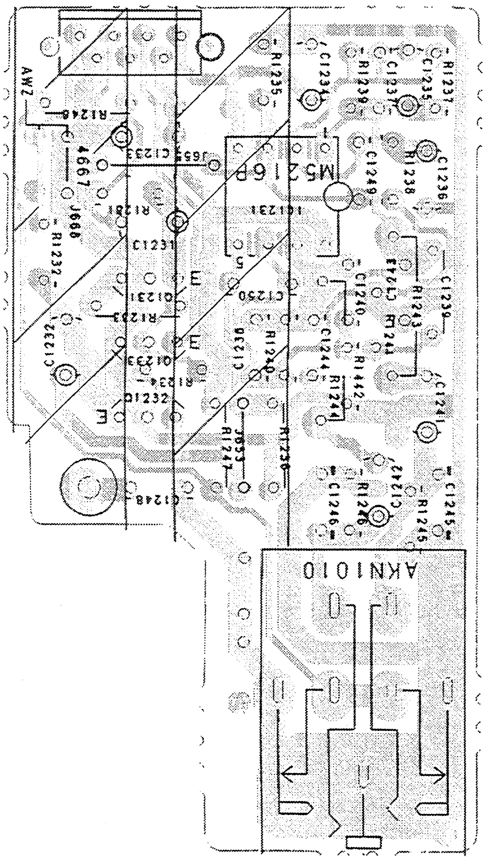
A

**VOLUME assembly (AWZ4654)**


J819
4654
AWZ-
W8K
CMK-1405X
C1507
C1508
C1513
R1505
R1507
IC1501
4558
C1505
C1509
C1510
R1510
R1512
R1511
C1506
J822
R1509
R1506
R1508
C1514
C1501
Q1501
R1501
R1504
R1503
R1513
R1514
C1502
R1502
Q1502
C1504
C1503
Q1503
E
R ch
GND
L ch
J831
J829
J827
J825
J824
R1518
J830
R1516
7291
IC1502
C1511
5-VOL
J832
J833
2-VOL
+
VR1501
J826

B

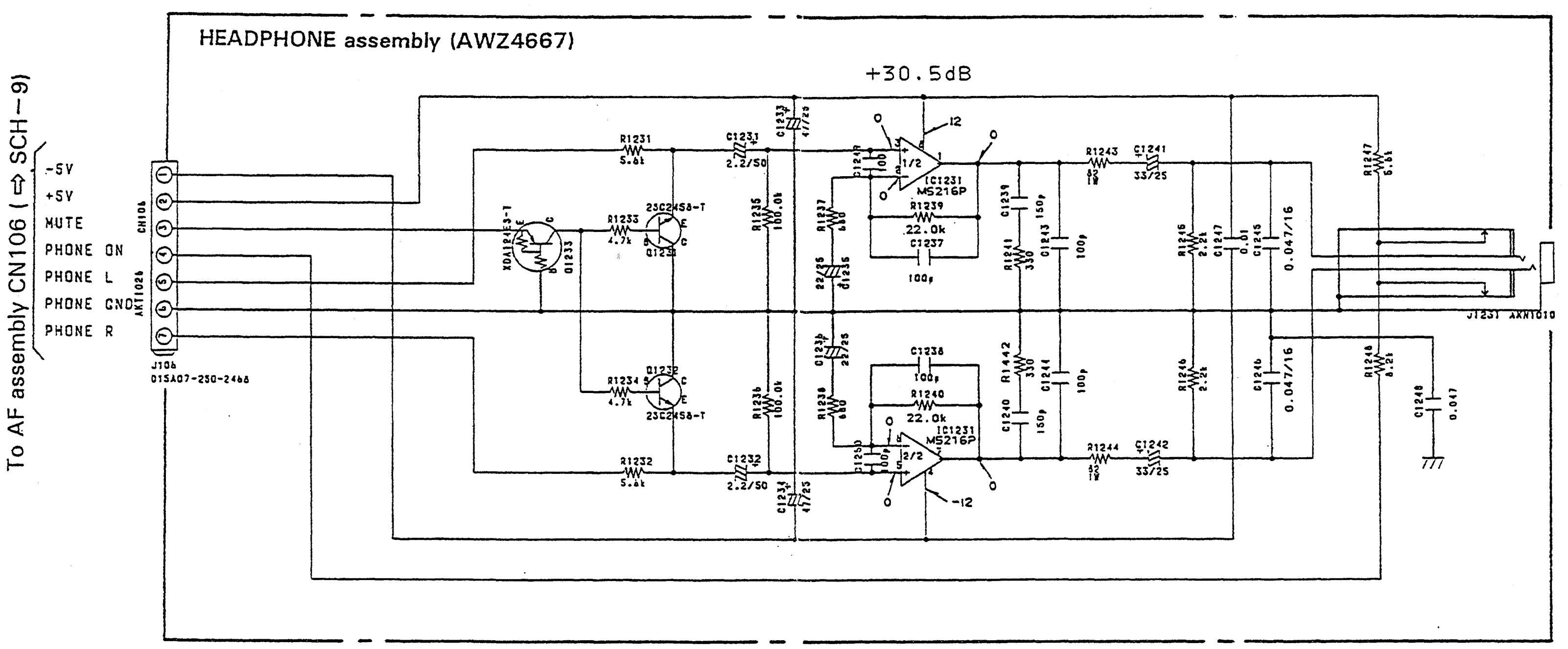
**HEADPHONE assembly (AWZ4667)**

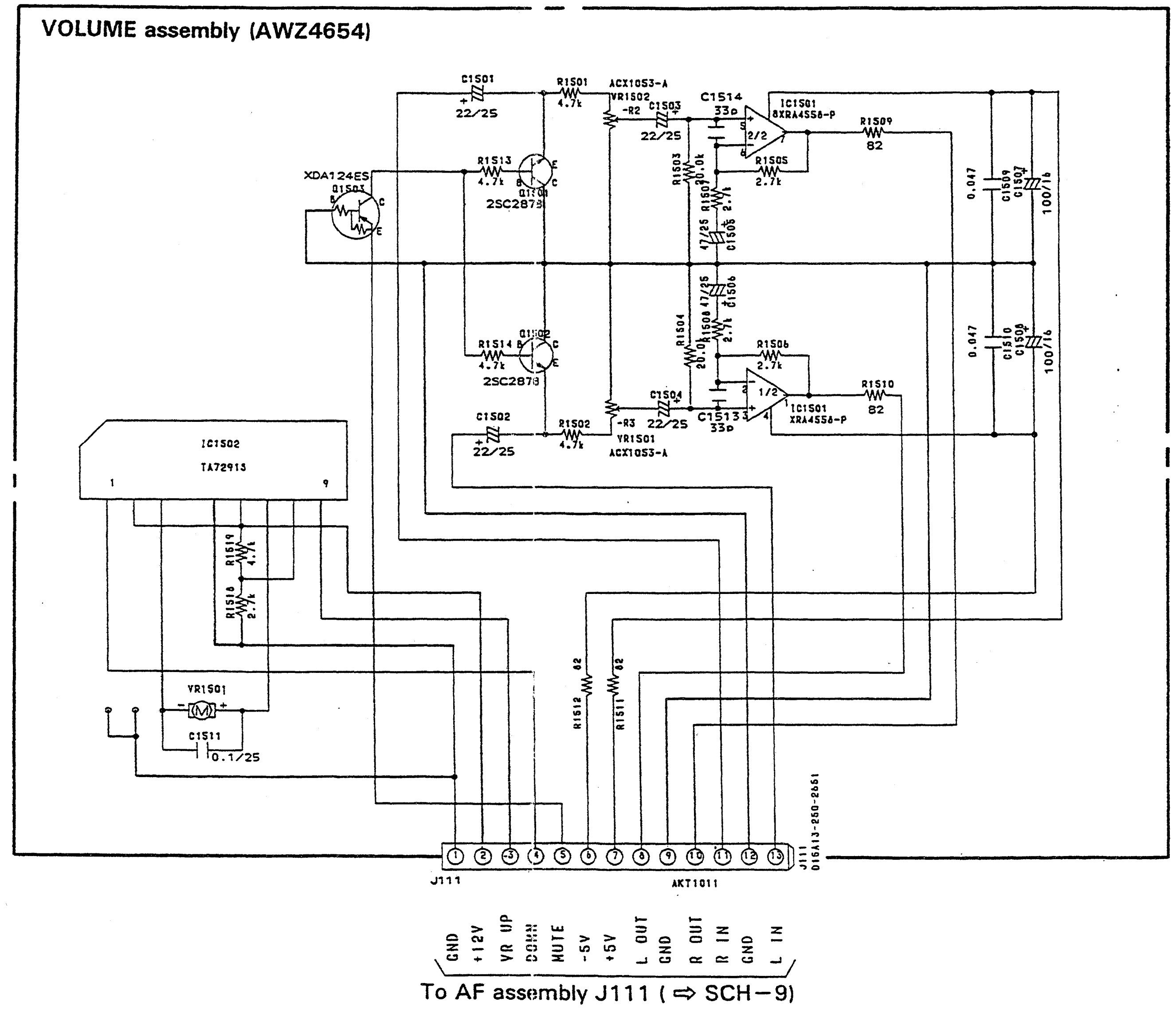

AWZ
R1248
4667
J666
R1232
C1233
J655
M5216P
IC1231
R1231
C1231
Q1231
E
R1233
Q1233
C1232
R1234
Q1232
C1248
R1235
C1234
R1239
C1237
C1235
R1237
R1238
C1236
C1249
C1250
C1238
R1240
C1240
R1243
C1239
C1244
R1442
R1244
C1241
J853
R1247
R1236
C1242
R1246
C1246
C1245
R1245
AKN1010

C

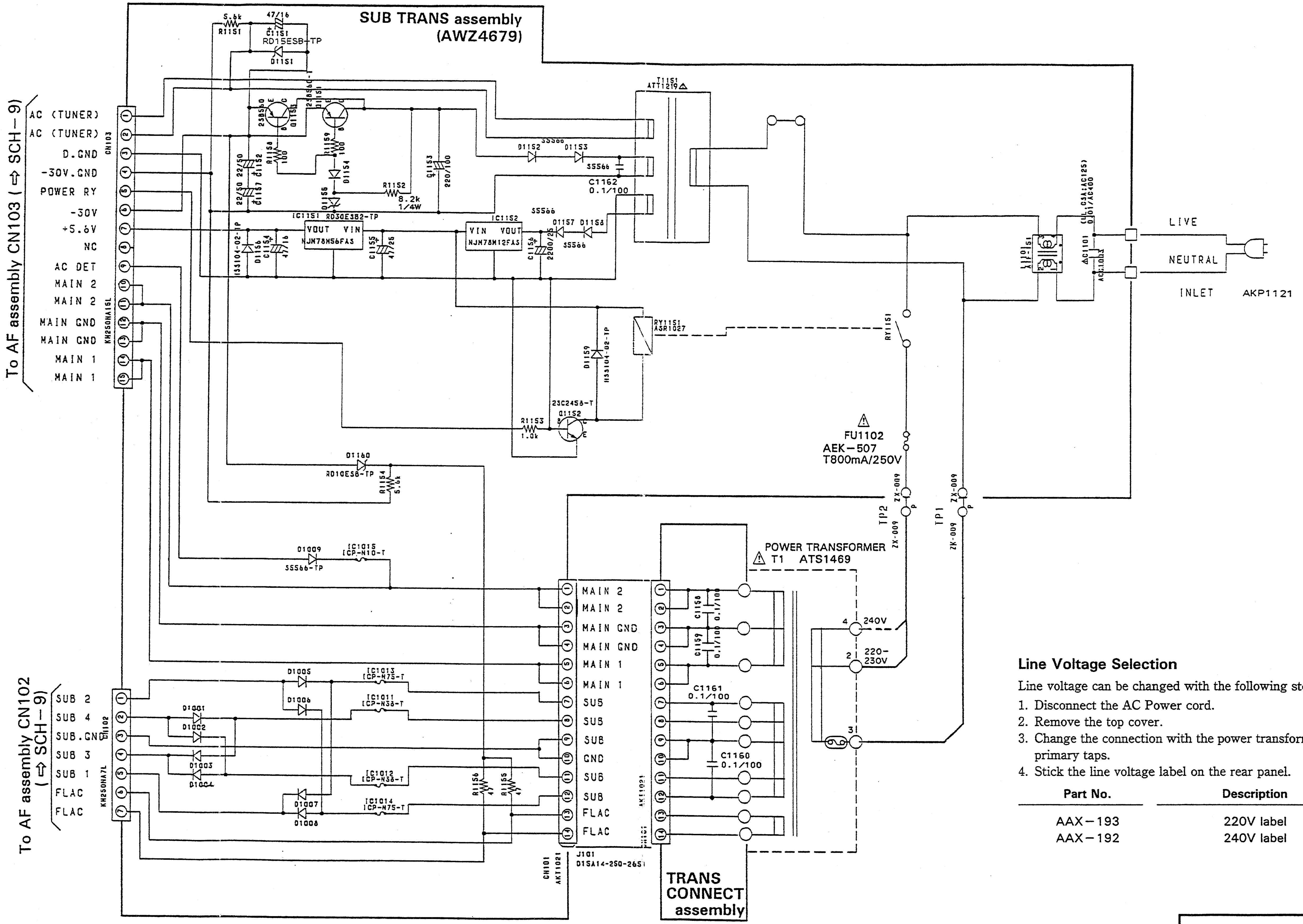
D

This PCB connection diagram is viewd from the parts mounted side.


HEADPHONE assembly (AWZ4667)
To AF assembly CN106 (⇒ SCH−9)
−5V
+5V
MUTE
PHONE ON
PHONE L
PHONE GND
PHONE R
J106
01SA07-250-2468
CN106
AKT1026
+30.5dB
R1231 5.6k
R1232 5.6k
C1233 2.2/50
C1232 2.2/50
R1233 4.7k
R1234 4.7k
XDA124ES-T Q1233
2SC2458-T Q1231
2SC2458-T Q1232
R1235 100.0k
R1236 100.0k
C1235 47/25
C1236 47/25
R1237 680
R1238 680
C1239 22/25
IC1231 M5216P
IC1231 M5216P
1/2
2/2
12
−12
R1239 22.0k
R1240 22.0k
C1237 100p
C1238 100p
R1241 330
R1442 330
C1239 150p
C1240 150p
C1243 100p
C1244 100p
R1243 82 1W
R1244 82 1W
C1241 33/25
C1242 33/25
R1245 2.2k
R1246 2.2k
C1245 0.01
C1246 0.047/16
C1247 0.047/16
R1247 6.8k
R1248 6.8k
C1248 0.047
J1231 AKN1010


VOLUME assembly (AWZ4654)
C1501 22/25
C1502 22/25
R1501 4.7k
R1502 4.7k
ACX1053-A
VR1502
−R2
−R3
VR1501
ACX1053-A
C1503 22/25
C1504 22/25
C1514 33p
C1513 33p
IC1501 XRA4558-P
2/2
1/2
R1509 82
R1510 82
R1505 2.7k
R1506 2.7k
R1503 20.0k
R1504 20.0k
R1507 2.7k
R1508 2.7k
C1505 47/25
C1506 47/25
0.047
C1509
C1510
C1507 100/16
C1508 100/16
XDA124ES
Q1503
R1513 4.7k
R1514 4.7k
Q1501 2SC2873
Q1502 2SC2873
IC1502
TA7291S
1
9
R1519 4.7k
R1518 2.7k
VR1501
M
C1511 0.1/25
R1512 82
R1511 82
J111
AKT1011
01SA13-250-2651
GND
+12V
VR UP
DOWN
MUTE
−5V
+5V
L OUT
GND
R OUT
R IN
GND
L IN
To AF assembly J111 (⇒ SCH−9)

### 7.3.3 SUB TRANS Assembly and TRANS CONNECT Assembly


SUB TRANS assembly
(AWZ4679)
To AF assembly CN103 (⇨ SCH−9)
AC (TUNER)
AC (TUNER)
D.GND
-30V.GND
POWER RY
-30V
+5.6V
NC
AC DET
MAIN 2
MAIN 2
MAIN GND
MAIN GND
MAIN 1
MAIN 1
CN103
KH250HA15L
R1151 5.6k
C1151 47/16
RD15ESB-TP
D1151
2SB560 Q1151
2SD560-1 Q1151
R1158 100
R1159 100
C1152 22/50
C1157 22/50
D1154
D1156
R1152 8.2k 1/4W
C1153 220/100
IC1151 RD30E382-TP
VOUT VIN
NJM78M56FAS
IC1152
VIN VOUT
NJM78M12FAS
1SS104-02-TP
D1155
C1154 47/16
C1155 47/25
C1156 2200/25
D1152 D1153
SS566
C1162 0.1/100
D1157 D1158
T1151 ATT1219
RY1151 ASR1027
D1159 1SS104-02-TP
2SC2458-T Q1152
R1153 1.0k
D1160 RD10ES8-TP
R1154 5.6k
D1009 SS566-TP
IC1015 ICP-N10-T
FU1102
AEK−507
T800mA/250V
TP2 ZX-009
TP1 ZX-009
RY1151
L1151
C1101 (UL,CSA:AC125) 0.01/AC400
LIVE
NEUTRAL
INLET AKP1121
POWER TRANSFORMER
T1 ATS1469
240V
220−230V
To AF assembly CN102 (⇨ SCH−9)
SUB 2
SUB 4
SUB.GND
SUB 3
SUB 1
FLAC
FLAC
CN102
KH250HA7L
D1001
D1002
D1003
D1004
D1005
D1006
D1007
D1008
IC1013 ICP-N75-T
IC1011 ICP-N38-T
IC1012 ICP-N38-T
IC1014 ICP-N75-T
R1156 47
R1155 47
MAIN 2
MAIN 2
MAIN GND
MAIN GND
MAIN 1
MAIN 1
SUB
SUB
SUB
GND
SUB
SUB
FLAC
FLAC
CN101 AKT1021
J101 01SA14-250-26S1
AKT1021
C1158 0.1/100
C1159 0.1/100
C1161 0.1/100
C1160 0.1/100
TRANS CONNECT assembly

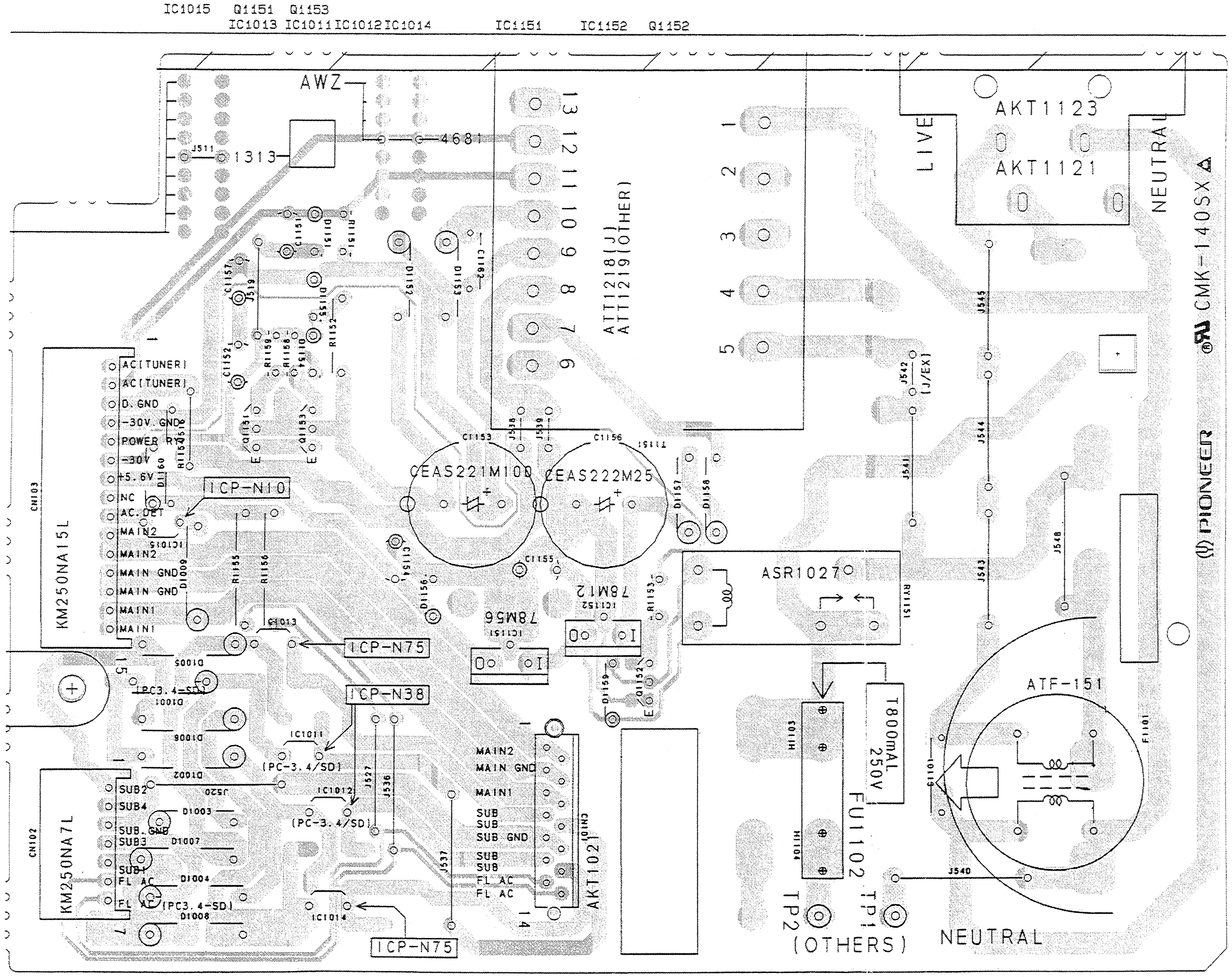
## Line Voltage Selection

Line voltage can be changed with the following steps.

1. Disconnect the AC Power cord.
2. Remove the top cover.
3. Change the connection with the power transformer (T1) primary taps.
4. Stick the line voltage label on the rear panel.

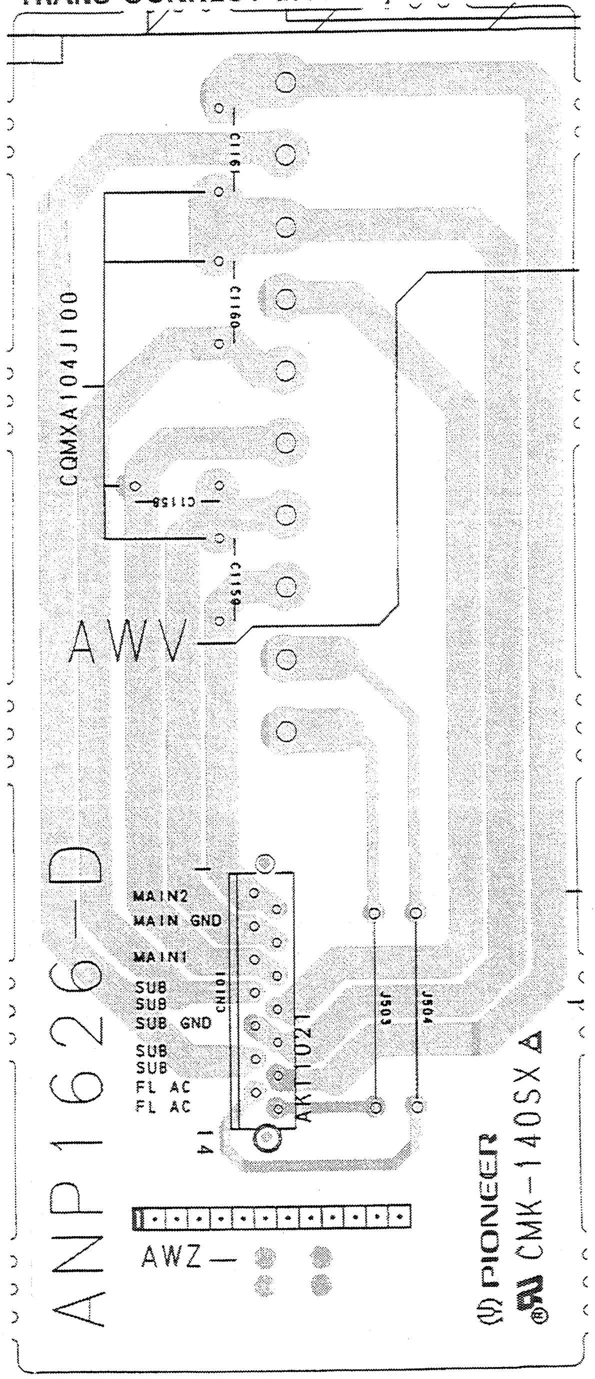
| Part No. | Description |
|---|---|
| AAX−193 | 220V label |
| AAX−192 | 240V label |

This PCB connection diagram is viewd from the parts mounted side.


IC1015
Q1151
Q1153
IC1013
IC1011
IC1012
IC1014
IC1151
IC1152
Q1152
AWZ
1313
4681
J511
13 12 11 10 9 8 7 6
ATT1218(J)
ATT1219(OTHER)
1 2 3 4 5
LIVE
AKT1123
AKT1121
NEUTRAL
CMK-140SX
PIONEER
J545
J542 (J/EX)
J544
J541
J543
J548
KM250NA15L
CN103
AC(TUNER)
AC(TUNER)
D.GND
-30V GND
POWER RY
-30V
+5.6V
NC
AC.DET
MAIN2
MAIN2
MAIN GND
MAIN GND
MAIN1
MAIN1
ICP-N10
ICP-N75
ICP-N38
ICP-N75
C1153
C1156
CEAS221M10D
CEAS222M25
C1155
78M12
78M56
ASR1027
R1151
R1155
R1156
R1153
D1157
D1158
D1159
Q1151
Q1153
Q1152
T1151
D1005
D1001
D1006
D1002
D1003
D1007
D1004
D1008
D1009
D1010
J520
J527
J536
J537
(PC3.4-SD)
(PC-3.4/SD)
(PC-3.4/SD)
(PC3.4-SD)
IC1011
IC1012
IC1013
IC1014
KM250NA7L
CN102
SUB2
SUB4
SUB.GND
SUB3
SUB1
FL AC
FL AC
MAIN2
MAIN GND
MAIN1
SUB
SUB
SUB GND
SUB
SUB
FL AC
FL AC
AKT1021
CN101
14
T800mAL 250V
FU1102
H1103
H1104
TP2
TP1
(OTHERS)
NEUTRAL
ATF-151
F1101
C1101
J540

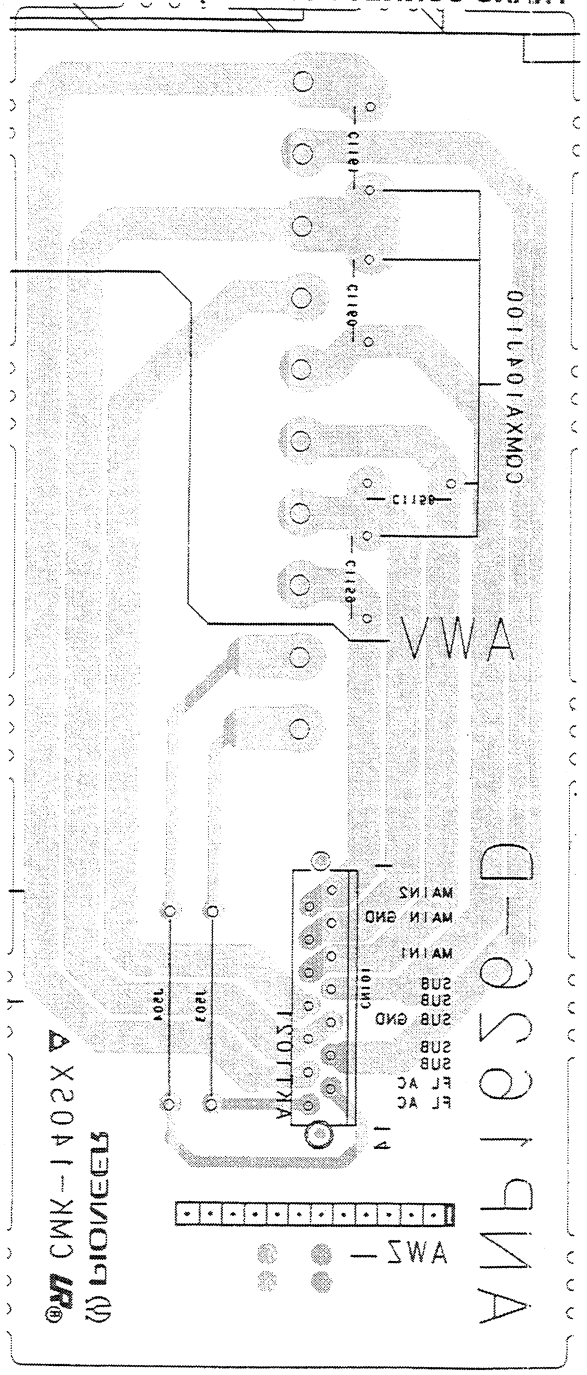
SUB TRANS assembly (AWZ4679)

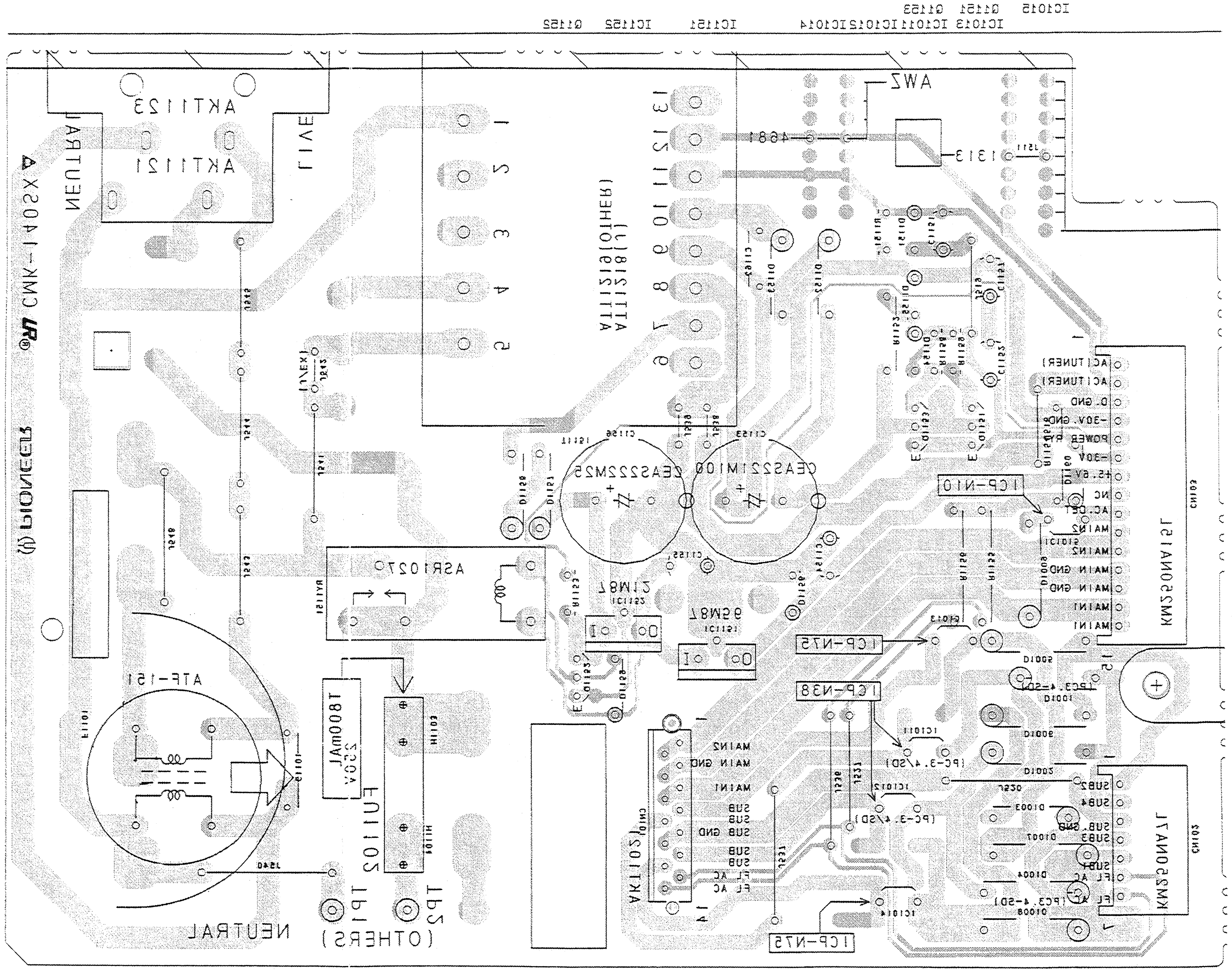
TRANS CONNECT assembly


C1116
C1110
COMXA104J100
C1158
C1115
AWV
ANP1626-D
MAIN2
MAIN GND
MAIN1
SUB
SUB
SUB GND
SUB
SUB
FL AC
FL AC
CN101
AKT1021
14
J503
J504
AWZ
PIONEER
CMK-140SX

This PCB connection diagram is viwed from the foil side.

**TRANS CONNECT assembly**


AWV
AWZ
CMX-1405X
PIONEER
ANP1629-D
MAIN2
MAIN GND
MAIN1
SUB
SUB GND
FL AC

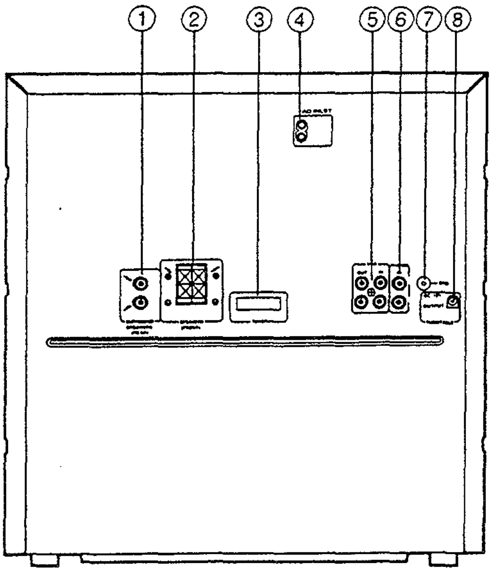

IC1015
Q1151
Q1153
IC1013
IC1011
IC1012
IC1014
IC1151
IC1152
Q1152
AWZ
AKT1123
AKT1121
LIVE
NEUTRAL
CMX-1405X
PIONEER
CEAS222M25
CEAS221M100
ASR1027
ATF-151
T800mAL
250V
EU1102
TP1
TP2
(OTHERS)
ICP-N10
ICP-N75
ICP-N38
KM200NA15
KM200NA17
VKP1012
AC(TUNER)
0.GND
-30V.GND
POWER
-30V
+5.6V
NC
AC.DET
MAIN2
MAIN GND
MAIN1
SUB
SUB GND
FL AC

**SUB TRANS assembly (AWZ4679)**

# 8. PANEL FACILITIES

## REAR PANEL FACILITIES

XD-J115M/XD-J110



### Multi-CD cassette deck amplifier: XD-J115M
### CD cassette deck amplifier: XD-J110

**① SURROUND SPEAKERS jacks**

Connect the surround speaker systems.

***NOTE:***

*Connect a speaker system having a nominal impedance of 16 Ω or more.*

**② SPEAKERS terminals**

**L:** Connect the left speaker system as seen from the listening position.
**R:** Connect the right speaker system as seen from the listening position.

***NOTE:***

*Connect a speaker system having a nominal impedance ranging from 8 Ω to 16 Ω.*

**③ TUNER jacks**

Connect the tuner flat cable here.

**④ AC INLET jack**

Connect the power cord here.

**⑤ VCR IN/OUT jacks**

**IN** : Connect to audio output jacks of VCR.
**OUT** : Connect to audio input jacks of VCR.

**⑥ PHONO input jacks**

Connect the audio cord of the turntable to these jacks.

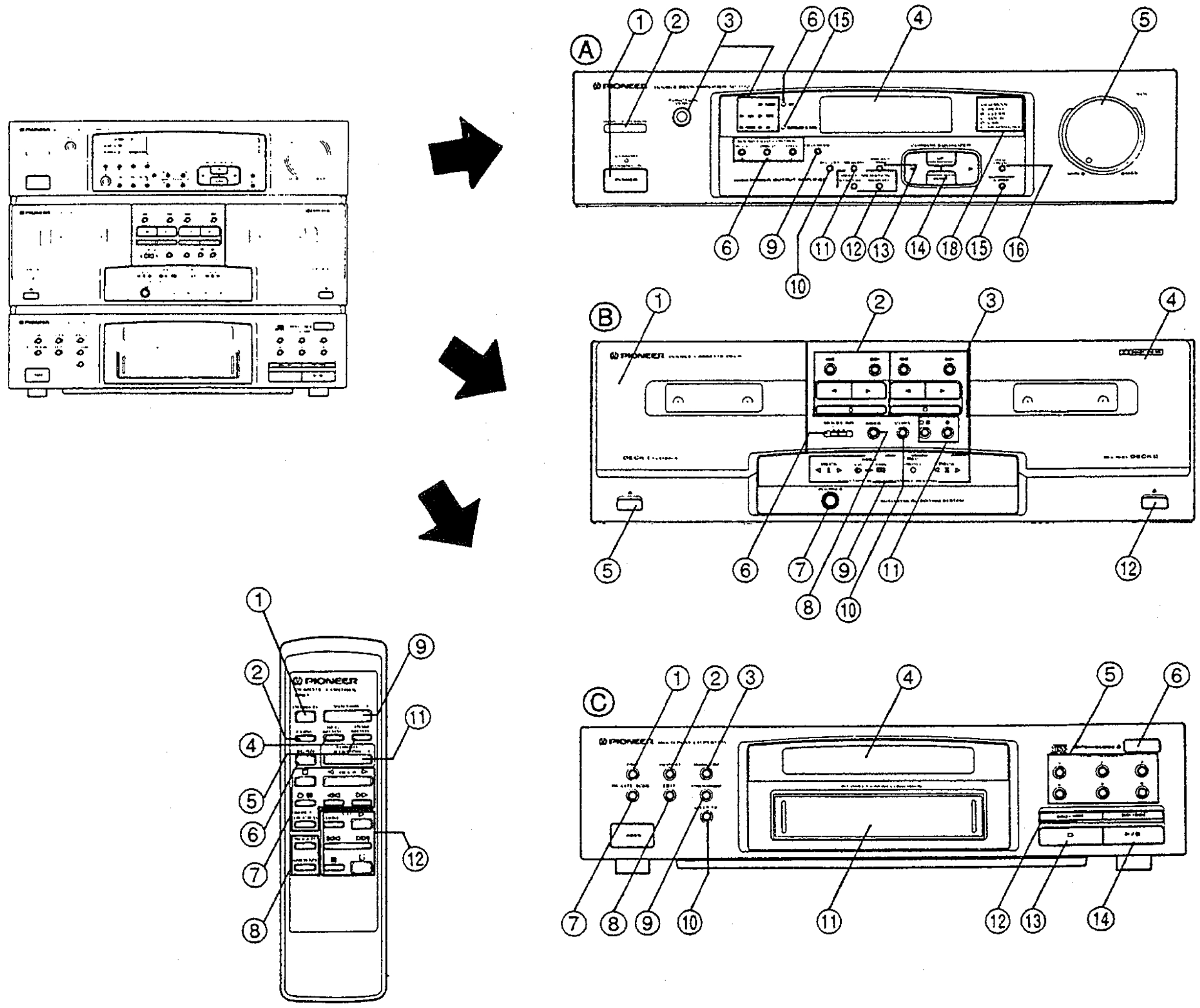
**⑦ Ground terminal (GND)**

Connect this to the ground terminal on the turntable (except for PL-J210)

**⑧ TURNTABLE (DC 12V OUTPUT) jack**

This jack supplies power to the turntable PL-J210.
Connect the power supply cord of the turntable to this jack.

[XD-J115M]


A
① ② ③ ⑥ ⑮ ④ ⑤
⑥ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑱ ⑮ ⑯
B
① ② ③ ④
⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫
C
① ② ③ ④ ⑤ ⑥
⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭
① ② ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑪ ⑫
PIONEER

## FRONT PANEL FACILITIES

### Multi-CD cassette deck amplifier: XD-J115M

- This unit has an automatic tape type selector.
- Tapes can be played back on deck I; tapes can be played back and recorded on deck II.
- Sound can be recorded as adjusted by the graphic equalizer (excluding synchro copy).
- Use a TYPE I (normal) or TYPE II (High/$CrO_2$) tape.

### Ⓐ : ◪ Amplifier section

### ① POWER STANDBY/ON switch, STANDBY indicator

This is the switch for electric power.

**ON** : When set to the ON position, power is supplied and the unit becomes operational.

**STANDBY** : When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.
The unit is in STANDBY when only the STANDBY indicator above the POWER switch is lit.

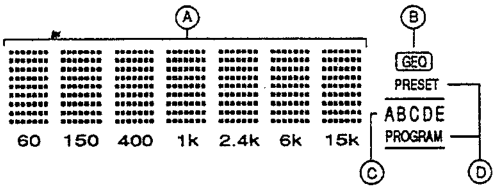
### ② REMOTE SENSOR window

### ③ FUNCTION (DEMO) button and indicators

Used to select the desired source. Each time this button is pressed, the source switches as follows. The desired indicator lights.

→ CD → VCR → PHONO
TAPE ← TUNER ←

### ④ Display section



Ⓐ Visual display of spectrum analyzer and graphic equalizer.
Ⓑ This lights when the GEQ ON/OFF button is on.
Ⓒ Display of the memory being recalled with the GEQ MODE button (A, B, C, D or E lights) or SOUND FIELD CONTROL button (A, B or C lights).
Ⓓ These under lines indicate the memory (PRESET or PROGRAM) that can be recalled with the PRESET/PGM or GEQ MODE button.

### ⑤ VOL. (Volume) control

### ⑥ SOUND FIELD CONTROL buttons and indicators

Used for calling the preset memory (MOVIE, DISCO, HALL) of the sound field control and for setting your own original memory (PROGRAM A, B, C). The SFC will light when MOVIE, DISCO, or HALL is called.

### ⑨ GEQ MODE button

Use to recall preset equalization settings. Also use to program into memory and recall desired sound field settings.

### ⑩ SFC OFF button

Press to reset the sound field control to no effect.
Turns off SURROUND & WIDE and adjusts GEQ to FLAT.

### ⑪ MEMORY button

Use to memorize your desired sound field control setting.

### ⑫ SMART OPERATION buttons

**[START/SET]**
Use when programming memory and operating SMART OPERATION.
**[MEMORY]**
Use when programming SMART OPERATION into memory.

### ⑬ PRESET/PGM button

Use to switch between recall of PRESET memory settings and your own original memory settings (PROGRAM) with the GEQ MODE button or SOUND FIELD CONTROL buttons. The memory being recalled is indicated by the indicator in the display section.

### ⑭ CUSOR EQUALIZER buttons

Use to adjust graphic equalizer settings.
[◄, ►] : Use these to change the frequency range to be adjusted.
[UP, DOWN] : Use these to adjust the degree of equalization.

### ⑮ SURROUND & WIDE button and indicator

By turning this switch ON, you can enjoy surround reproduction when surround speakers are used.
By turning this button ON, you can enjoy WIDE reproduction with greater left-right spread when surround speakers are not used.
Each time this button is pressed, WIDE effects switches as follows.

→ WIDE1 → WIDE2 → WIDE3
off ←

The WIDE effects of the sound intensify in the order of WIDE 1→2→3.
The SURROUND & WIDE indicator will light.

***NOTE:***
*In the case of monaural source, SURROUND & WIDE effects cannot be obtained.*

### ⑯ GEQ ON/OFF button

This switches the graphic equalizer on/off. When it's on, the GEQ indicator in the display section lights.

### ⑱ GEQ MODE printed indicators

Displays of the preset equalization pattern name being recalled with the GEQ MODE button.

## Ⓑ : ◪ Cassette deck section

### ① Deck I cassette door

### ② Deck I operation buttons

**► (PLAY: FWD)** : For playing back a tape in the forward mode.
**◄ (PLAY: REV)** : For playing back a tape in the reverse mode.
**■ (STOP)** : For stopping the tape.
**►► (FAST)** : Fast forward in forward mode, rewind in reverse mode. Music Search can also be carried out.
**◄◄ (FAST)** : Rewind in forward mode, fast forward in reverse mode. Music Search can also be carried out.

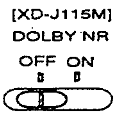
### ③ Deck II operations buttons

Same as Deck I operation buttons ②.

### ④ Deck II cassette door

### ⑤ Deck I EJECT button ( ⏏ )

### ⑥ DOLBY*NR switch



Only the Dolby B-type NR for XD-J115M.

*

*Manufactured under license from Dolby Laboratories Licensing Corporation.*
*DOLBY and the double - D symbol ◻◻ are trademarks of Dolby Laboratories Licensing Corporation.*

### ⑦ PHONES (Head phones) jack

For stereo headphones.

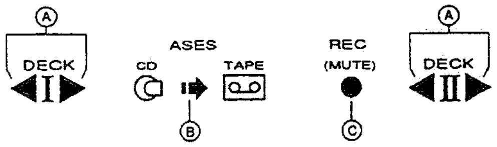
***NOTE:***
*There is no output from the speakers when headphones are plugged into the PHONES jack.*

### ⑧ ASES button

Used for recording a CD on a cassette tape automatically.

***NOTE:***
- *FINE is the mode when performing CD player EDIT (Computer Allocated Program Editing).*
- *The NORMAL mode provide a blank space of about five seconds between songs.*

### ⑨ Operation indicators



Ⓐ **Direction (◄, ►):** Indicates direction of tape travel during recording or playback.
Ⓑ **ASES:** Lights when in the ASES mode.
Ⓒ **REC (MUTE):** Lights when in REC or REC mute.

### ⑩ COPY button

Used for tape copying.
Copying from the deck I tape to the deck II tape at normal recording/ playback speed.

### ⑪ Deck II control buttons

**● II (REC PAUSE)** : Pressing this button sets recording standby mode. Pressing the play button ( ◄ or ► ) next starts recording. Pressing this button during recording sets Rec pause mode.
Temporarily stops tape travel. Cancels pause mode when pressed again or press the play button.
**O (MUTE)** : Used for creating a blank space between songs. Pressing this button once creates an unrecorded 4-second space.
Continuing to press the button creates an unrecorded space as long as the time the button is pressed.

### ⑫ Deck II EJECT button ( ⏏ )

## Ⓒ : ◩ CD player section

### ① TIME button

Use to select the method for displaying the playing time on the display section.
Each time the button is pressed, the indication changes from TIME, REMAIN (track remain) and REMAIN (disc remain): This will not be displayed during programmed playback to TOTAL in that order.

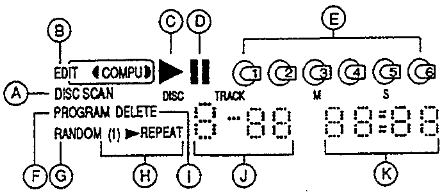
### ② REPEAT button

Press this button for repeat playback. Pressing the button once, twice or three times will change the repeat mode from single track repeat, to all tracks repeat, and repeat playback cancellation respectirely.

### ③ RANDOM

Press to begin random playback.

### ④ Display section



| | |
|---|---|
| Ⓐ **DISC SCAN** | : Lights after pressing the HI-LITE SCAN button. |
| Ⓑ EDIT ◖COMPU◗ | : Normally EDIT COMPU is light. When the EDIT button is pressed, ◖◗ mark lights up. |
| Ⓒ ► | : Lights during playback. |
| Ⓓ II | : Lights during temporarily interrupted playback. |
| Ⓔ **Ｃ<DISC symbol>** | : If a nonexistent disc is searched for, the corresponding disc symbol goes off. |
| Ⓕ **PROGRAM** | : Lights after programming (after program has been memorized). |
| Ⓖ **RANDOM** | : Lights during random playback. |
| Ⓗ **(1) ►REPEAT** | : Lights during repeat playback of one tune. (1) extinguishes during repeat playback of all tunes. |
| Ⓘ **DELETE** | : Lights during delete. |
| Ⓙ DISC8 TRACK88 | : Indicates the disc and the track currently being heard. |
| Ⓚ M88:S88 | : Displays the minutes and seconds of the elapsed time, total palyback time, and remaining time. |

***NOTE:***
*When power is tuned on, the CD player section indicators show different indications depending on the condition (disc loaded or not, etc.) prior to when the power was turned off. This is not a malfunction.*

### ⑤ DISC NUMBER buttons (1—6)

Use to select disc numbers for playback or programming.

### ⑥ EJECT button (⏏)

Press to eject a magazine. When pressed, any magazine inside is expelled forward.

### ⑦ HI-LITE SCAN button

If this button is pressed while the unit is stopped, the first 10 seconds after the first minute of the first tune on each of the discs from DISC 1 to DISC 6 are played back in sequence (DISC SCAN). If this button is pressed during DISC SCAN, the first ten seconds after the first minute of all the tunes on each of discs from DISC 1 to DISC 6 are played back (TRACK SCAN).
To reset the start-up time of HI-LITE SCAN, press the HI-LITE SCAN button during normal playback.
Enter the time of current playback in memory and 10-second passages on all the remaining tracks are played back at the memorized time.

### ⑧ EDIT button

Press this button and designate the number of minutes of tape for recording with the Manual/Track search button. The CD player then selects tunes and programs them automatically for recording so that the unrecorded portion at the end of the tape is at the shortest distance.

### ⑨ PROGRAM button

Use to program a sequence of tracks.

- When this button is pressed, the "PROGRAM" indicator will light. Select a desired disc and track with DISC NUMBER buttons and Manual/Track search buttons. Tunes will be added to the order in which they are specified.
- If only a DISC NUMBER button is pressed, all tracks on the specified disc will be added to the program. The letters "AL" will appear on the indicator.

### ⑩ DELETE button

Pressing this button and then selecting the discs with the DISC NUMBER buttons (1 through 6) of selecting the tracks with the Manual/Track search buttons will result in the selected discs and tracks not being played even when the PLAY/PAUSE button is pressed.

### ⑪ Magazine insertion slot

### ⑫ Manual/Track search buttons (⏮ · ◀◀, ▶▶ · ⏭)

These buttons are used for track search and manual search during normal playback, programmed playback or pause. When these buttons are pressed, either the previous tune or the next tune is established. If they are kept depressed, either fast forward or reverse is established, depending upon the direction of pressing.

### ⑬ STOP button (■)

Press to stop playback. When pressed, the player goes into the stop mode and all operations stop.

**[LAST DISC MEMORY]**
If no program had been input when the STOP button ( ■ ) is pressed to stop the disc, the number of the disc that was just played will be displayed. (the song number is "01").
When the STOP button ( ■ ) is pressed another time, the DISC NUMBER displayed will change to "1".
If a program had been input, the disc will be stopped with the DISC NUMBER of the first step and song number displayed.

### ⑭ PLAY/PAUSE button ( ►/II )

During stop, press this button to start playback. During playback, press this button to pause.
When this button is pressed during highlight scanning, the highlight scan will be released, and the disc will be played normally.

## Remote control unit

### ① POWER button

### ② FUNCTION button

The amplifier function automatically switches to the music source being operated when you press the CD playback ( ► ) cassette deck playback ( ◄, ► ) or tuner station controls.
Use to switch the input.
Each time this button is pressed, it is switches as follows:

→ CD → VCR → PHONO
TAPE ← TUNER ←

The desired indicator lights.

### ④ SFC MODE button

Use to select one of the preset sound fields. Each time the button is pressed, one of the preset sound fields will be selected, in the following order:

→ MOVIE → DISCO → HALL
(off) ←

Turn off SURROUND & WIDE and adjusts GEQ to FLAT.

### ⑤ PGM MODE button

This button is used when selecting one of your own personally created sound fields. Each time the button is pressed, one of the sound fields will be selected, in the following order:

→ A → B → C
(off) ←

Turn off SURROUND & WIDE and adjusts GEQ to FLAT.

### ⑥ SCAN button

Press to perform automatic scan of the broadcast stations preset in the unit's memory.

### ⑦ Deck operation buttons.

◄, ► : Begins playback
◄◄, ►► : Fast forward or rewind
■ : Stop
● II : Pressing this button sets recording standby mode. Pressing the play button ( ◄ or ► ) next starts recording. Pressing this button during recording sets REC PAUSE mode.
Temporarily stops tape travel. Cancels pause mode press the play button.
SHIFT TAPE I : To operate deck I, press the desired deck operation while pressing this button.

### ⑧ Timer operation buttons

SLEEP : Sets the sleep timer.
SNOOZE : Turns off power if pressed after timer playback begins. Timer playback begins again approx. 5 minutes later.
WAKE-UP : Timer playback setting/cancellation can be performed when the timer playback time has been set.

### ⑨ VOLUME + (UP)/– (DOWN) buttons

When pressed, VOLUME on the amplifier is actually moved by a motor.

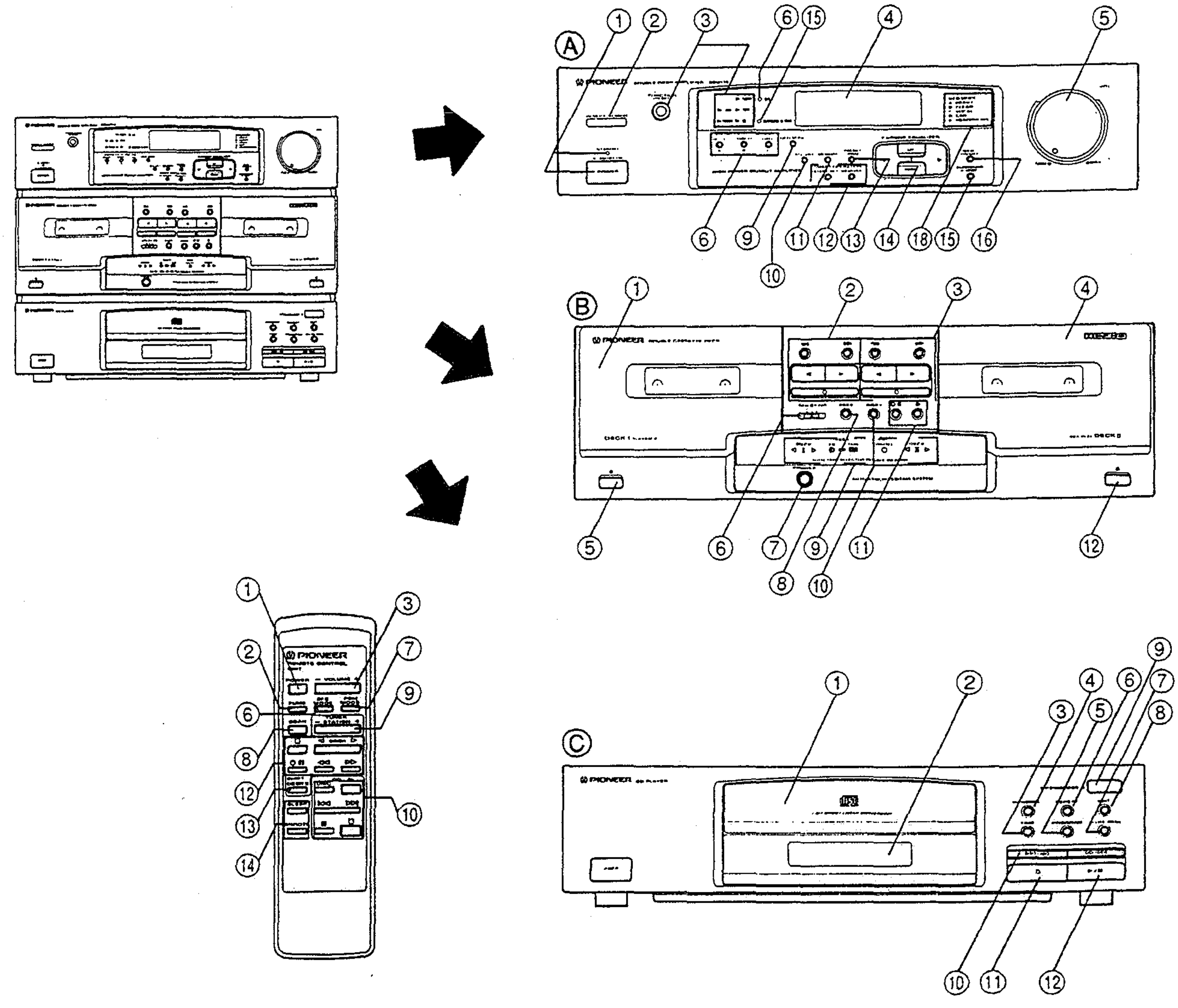
### ⑪ TUNER STATION – (DOWN), + (UP) buttons

Used for locating stations. (see page 20)
– (DOWN) : *Stations change in order in the downward direction.*
+ (UP) : Stations change in order in the upward direction.

### ⑫ CD operation buttons

► : Play
DISC : DISC selection
■ : Stop
II : Pause (To release, press PAUSE button once more, press PLAY button, or press the PLAY/PAUSE button of the main unit.)
|◄◄, ►►| : Track search

XD-J110


Ⓐ
① ② ③ ⑥ ⑮ ④ ⑤
⑥ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑱ ⑮ ⑯
Ⓑ
① ② ③ ④
⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫
Ⓒ
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
⑩ ⑪ ⑫
PIONEER
① ② ③ ⑥ ⑦ ⑧ ⑨ ⑩ ⑫ ⑬ ⑭

## FRONT PANEL FACILITIES

### CD cassette deck amplifier: XD-J110

- This unit has an automatic tape type selector.
- Tapes can be played back on deck I; tapes can be played back and recorded on deck II.
- Sound can be recorded as adjusted by the graphic equalizer (excluding synchro copy).
- Use a TYPE I (normal) or TYPE II (High/CrO2) tape.

### Ⓐ : ◪ Amplifier section

#### ① POWER STANDBY/ON switch/STANDBY indicator

This is the switch for electric power.

**ON** : When set to the ON position, power is supplied and the unit becomes operational.

**STANDBY** : When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.
The unit is in STANDBY when only the STANDBY indicator above the POWER switch is lit.

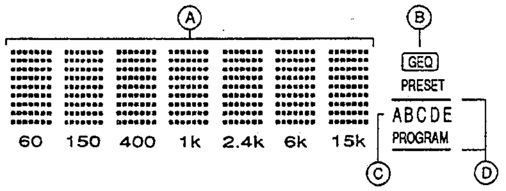
#### ② REMOTE SENSOR window

#### ③ FUNCTION (DEMO) button and indicators

Used to select the desired source. Each time this button is pressed, the source switches as follows. The desired indicator lights.

→ CD → VCR → PHONO → TUNER → TAPE →

#### ④ Display section



Ⓐ Visual display of spectrum analyzer and graphic equalizer.
Ⓑ This lights when the GEQ ON/OFF button is on.
Ⓒ Display of the memory being recalled with the GEQ MODE button (A, B, C, D or E lights) or SOUND FIELD CONTROL button (A, B or C lights).
Ⓓ These under lines indicate the memory (PRESET or PROGRAM) that can be recalled with the PRESET/PGM or GEQ MODE button.

#### ⑤ VOL. (Volume) control

#### ⑥ SOUND FIELD CONTROL buttons and indicator (MOVIE/A, DISCO/B, HALL/C)

Used when calling the preset memory (MOVIE, DISCO, HALL) of sound field control and setting your own original memory (PROGRAM-A, B, C).
The SFC and SURROUND & WIDE indicators will light when MOVIE, DISCO, or HALL is called.

#### ⑨ GEQ MODE button

Use to recall preset equalization settings. Also use to program into memory desired sound field settings.

#### ⑩ SFC OFF button

Press to reset the sound field control to no effect.
Turns off SURROUND & WIDE and adjusts GEQ to FLAT.

#### ⑪ MEMORY button

Use to memorize your desired sound field control setting.

#### ⑫ SMART OPERATION buttons

**[START/SET]**
Use when programming memory and operating SMART OPERATION.
**[MEMORY]**
Use when programming SMART OPERATION into memory.

#### ⑬ PRESET/PGM (PROGRAM) button

Use to switch between recall of PRESET memory settings and your own original memory settings (PROGRAM) with the GEQ MODE button or SOUND FIELD CONTROL buttons. The memory being recalled is indicated by the indicator in the display section.

#### ⑭ CUSOR EQUALIZER buttons

Use to adjust graphic equalizer settings.
[◄, ►] : Use these to change the frequency range to be adjusted.
[UP, DOWN] : Use these to adjust the degree of equalization.

#### ⑮ SURROUND & WIDE button and indicator

By turning this switch ON, you can enjoy surround reproduction when surround speakers are used.
By turning this button ON, you can enjoy WIDE reproduction with greater left-right spread when surround speakers are not used.
Each time this button is pressed, WIDE effects switches as follows.

→ WIDE1 → WIDE2 → WIDE3 → off →

The WIDE effects of the sound intensify in the order of WIDE 1→2→3.
The SURROUND & WIDE indicator will light.

***NOTE:***
*In the case of monaural source, SURROUND & WIDE effects cannot be obtained.*

#### ⑯ GEQ ON/OFF button

This switches the graphic equalizer ON/OFF. When it's ON the GEQ indicator in the display section lights.

***NOTE:***
*Sound comes from the surround speakers regardless of whether this button is on or off.*

#### ⑱ GEQ MODE printed indecations

Displays of the preset equalization pattern name being recalled with the GEQ MODE button.

## Ⓑ : ◪ Cassette Deck Section

### ① Deck I cassette door

### ② Deck I operation buttons

**► (PLAY: FWD)** : For playing back a tape in the forward mode.
**◄ (PLAY: REV)** : For playing back a tape in the reverse mode.
**■ (STOP)** : For stopping the tape.
**►► (FAST)** : Fast forward in forward mode, rewind in reverse mode. Music Search can also be carried out.
**◄◄ (FAST)** : Rewind in forward mode, fast forward in reverse mode. Music Search can also be carried out.

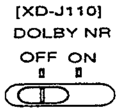
### ③ Deck II operations buttons

Same as Deck I operation buttons ②.

### ④ Deck II cassette door

### ⑤ Deck I EJECT button ( ⏏ )

### ⑥ DOLBY* NR switch



Only the Dolby B-type NR for XD-J110.

*
- *Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.*
- *"DOLBY" and the double-D symbol ◻◻ are trademarks of Dolby Laboratories Licensing Corporation.*

### ⑦ PHONES (Headphones) jack

For stereo headphones.

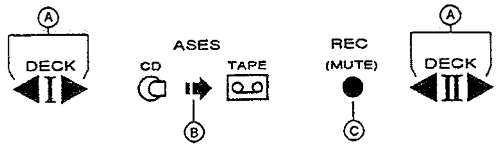
***NOTE:***
*There is no output from the speakers when headphones are plugged into the PHONES jack.*

### ⑧ ASES button

Used for recording a CD on a cassette tape automatically.

***NOTE:***
- *FINE is the mode when performing CD player EDIT (Computer Allocated Program Editing).*
- *The NORMAL mode provides a blank space of about five seconds between songs.*

### ⑨ Operation indicators



**Ⓐ Direction ( ◄ , ► ):**
Indicates direction of tape travel during recording or playback.
Flashes slowly in Pause mode.
Flashes rapidly during Music Search (MS).

**Ⓑ ASES:**
Lights when in the ASES mode.

**Ⓒ REC (MUTE):**
Lights when it flashes during tape copying.

### ⑩ COPY button

Used for tape copying.
Copying from the deck I tape to the deck II tape at normal recording/playback speed.

### ⑪ Deck II CONTROL buttons

**● II (REC PAUSE)** : Pressing this button sets recording standby mode. Pressing the PLAY button ( ◄ or ► ) next starts recording. Pressing this button during recording sets REC PAUSE mode.
Temporarily stops tape travel. Cancels pause mode when pressed again or press the PLAY button.

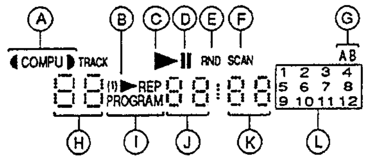
**O (MUTE)** : Used for creating a blank space between songs. Pressing this button once creates an unrecorded 4-second space.
Continuing to press the button creates an unrecorded space as long as the time the button is pressed.

### ⑫ Deck II EJECT button ( ⏏ )

## Ⓒ : ◪ CD player section

### ① Disc tray

### ② Display section



Ⓐ ◖◗ : Display when Compu PGM editing is set or used.
Ⓑ **(1) ▶ REP** : Lights during repeat playback of single track or all tracks.
Ⓒ ▶ : Lights during playback.
Ⓓ II : Lights during temporarily interrupted playback.
Ⓔ **RND** : Lights during random playback.
Ⓕ **SCAN** : Lights during HI-LITE scan playback.
Ⓖ **A/B (music calendar)**
: TAPE SIDE A/TAPE SIDE B
After editing, the track numbers that can be recorded on the A (B) side of the tape will light.
Ⓗ **TRACK (figure)** : Displays the current track number (during normal playback and programmed playback) or the track being programmed (during programmed operation).
Ⓘ **PROGRAM** : Lights after programming (after program has been memorized).
Ⓙ **Minutes (figure)** : Displays the minutes of the elapsed time, total playback time, and remaining time.
Ⓚ **Seconds (figure)** : Displays the seconds of the elapsed time, total playback time, and remaining time.
Ⓛ **1–12 (music calendar)**
: Displays the track numbers.

***NOTE:***

- *When power is turned ON, the CD player section indicators show different indications depending on the condition (disc loaded or not, etc.) prior to when the power was turned off. This is not a malfunction.*

### ③ TIME button

This button selects the display mode. Each time the button is pressed, the display changes from Time, Remain, to Total in that order.

- **Time** : Displays the track number of the track being played (TRACK) and the elapsed time (minutes and seconds).
- **Remain** : Displays the remaining time on the track being played. When the TIME button is pressed again, the remaining time on the disc being played will be displayed.
- **Total** : Displays the total number of tracks on the disc (TRACK) and the total playback time will be displayed. During playback, the display goes on for about 5 seconds before changing to the time display.

### ④ RANDOM Play button

Press to begin random playback.

### ⑤ PROGRAM button

Use to program a sequence of tracks.

- Press this button after selecting a desired track with track search button. Tunes will be added to the program in the order in which they are specified.

### ⑥ REPEAT button

Press this button for repeat playback. Pressing the button once, twice, or three times will change the repeat mode from single track repeat, all tracks repeat, to repeat playback cancellation, respectively.

### ⑦ HI-LITE SCAN button

10 second passages are played starting from the first minute of each track on the CD, in sequence, beginning with the first track.
To set the point in the tracks you want to scan, press this button during playback. The elapsed time is memorized, and then ten second passages of all the remaining tracks are played at the memorized time.

### ⑧ EDIT button

Press this button, and with the Manual/Track search buttons ( ⏮ • ◀◀, ▶▶ • ⏭ ) specify the length of tape you want to use for recording. Before recording, the CD player automatically programs the order of tracks to minimize the amount of unused tape at the end of a selected tape length.

### ⑨ OPEN/CLOSE button

Press when you wish to eject a disc. Each time the button is pressed, the tray is alternately pushed out or pulled in.

### ⑩ MANUAL/TRACK SEARCH buttons ( ⏮ • ◀◀, ▶▶ • ⏭ )

Use these buttons to perform track search and manual search during regular playback, programmed playback, or during pause.
Press a button to skip to the previous or the next track. You will continue moving to the next track in the direction of the button you pressed as long as you continue pressing the button.
Keep the button depressed until you come to the part you want to listen to.

### ⑪ STOP button ( ■ )

Press to stop playback. When pressed, the player goes into stop mode and all operations stop.
Press to clear a program. When pressed during stop mode, the program stored in memory is cleared.

### ⑫ PLAY/PAUSE button ( ▶ / II )

Press to begin playback.
When playing back, press to temporarily interrupt playback. When pressed again, the pause mode is canceled and playback resumes.

## Remote control unit

### ① POWER button

### ② FUNCTION button

The amplifier function automatically switches to the music source being operated when you press the CD playback ( ► ) cassette deck playback ( ◄, ► ), or tuner station controls.

Used to switch the input. Each time this button is pressed, it switches as follows.

→ CD → VCR → PHONO
TAPE ← TUNER ←

The desired indicator lights.

### ③ VOLUME + (UP)/– (DOWN) buttons

When pressed, VOLUME on the amplifier is actually moved by a motor.

### ⑥ SFC MODE button

Use to select one of the preset sound fields. Each time the button is pressed, one of the preset sound fields will be selected, in the following order:

→ MOVIE → DISCO → HALL
off* ←

* Turn off SURROUND & WIDE and adjusts GEQ to FLAT.

### ⑦ PGM (PROGRAM) MODE button

This button is used when selecting one of your own personally created sound fields. Each time the button is pressed, one of the sound fields will be selected, in the following order:

→ A → B → C
off* ←

* Turn off SURROUND & WIDE and adjusts GEQ to FLAT.

### ⑧ SCAN button

Use to select the display mode (frequency mode or station mode).

### ⑨ TUNER STATION – (DOWN), + (up) buttons

- Used for locating stations.

+: Stations change in order in the upward direction.
–: Stations change in order in the downward direction.

### ⑩ CD operation buttons

| | |
|---|---|
| ► | : PLAY |
| DISC | : This button does not function. |
| ■ | : STOP |
| II | : PAUSE |
| ⏮, ⏭ | : TRACK SEARCH |

### ⑫ TAPE II operation buttons

**[For XD-J110]:**

Same as Deck I operation buttons and Deck II control buttons on the CD cassette deck amplifier (Except for MUTE).

**●(REC):** To set to recording standby mode. The REC indicator lights and the direction indicators ( ◄ and ► ) flash. Recording begins when you press the PLAY button ( ◄ or ► ).

**II(PAUSE):** Temporarily stops tape travel. Cancels pause mode when pressed again or press the PLAY button.

### ⑬ SHIFT TAPE I button

To operate Deck I, press the desired deck operation while pressing this button. ●II (REC PAUSE) button does not function.

### ⑭ Timer operation buttons

**SLEEP:** Sets the sleep timer.

**WAKE-UP:** Timer playback setting/cancellation can be performed when the timer playback time has been set.

**SNOOZE:** Turns off power if pressed after timer playback begins. Timer playback begins again approx. 5 minutes later.

# 9. SPECIFICATIONS

## Multi CD double deck amplifier: XD-J115M

### Amplifier Section

**[XD-J115M]**

| | |
|---|---|
| Music power (DIN) | 60W+60W (1 kHz, T.H.D. 1%, 8Ω) |
| Continuous Power Output (DIN) | 34W+34W<br>(1 kHz T.H.D. 1%, 8Ω) |
| Graphic equalizer frequency band | 60 Hz, 150 Hz,<br>400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15 kHz, ±7 dB |
| S/N (DIN, continuous power/50 mW) | |
| PHONO | 68 dB/60 dB |
| Total Harmonic Distortion (40 Hz to 20,000 Hz, 22.5W, 8Ω)* | No more than 0.2% |
| Input sensitivity/impedance | |
| PHONO (MM) | 2.5 mV/47 kΩ |
| VCR | 150 mV/25 kΩ |

### Double Deck Section

| | |
|---|---|
| Systems | 4 track, 2-channel stereo |
| Heads | Recording/playback head x 1<br>Erasing head x 1<br>Playback head x 1 |
| Motor | DC servo 2 speed motor x 2 |
| Wow and Flutter | No more than 0.09% (W.PEAK) |
| Fast Winding Time | Approximately 105 seconds (C-60 tape) |
| Frequency Response (–20 dB recording): | |
| Type I (Normal) tape | 35 Hz to 14,000 Hz ±6 dB (EIAJ) |
| Type II (HIGH/CrO2) tape | 35 Hz to 15,000 Hz ±6 dB (EIAJ) |
| Signal-to-Noise ratio | |
| Dolby NR OFF | 56 dB |
| Noise Reduction Effect | |
| Dolby B-type NR ON | More than 5 dB (at 5 kHz) |

### CD Section

| | |
|---|---|
| Type | Compact disc digital audio system |
| Frequency response | 4 Hz—20 kHz |
| Number of channels | 2 channels (stereo) |

### Furnished Parts

| | |
|---|---|
| Operating Instructions | 1 |
| Remote Control Unit | 1 |
| Dry Cell Batteries | 2 |
| Six-Compact disc-Magazine | 1 |
| Power cord | 1 |

### Miscellaneous

| | |
|---|---|
| Power requirements | a.c. 220 Volts—, 50/60 Hz |
| Power Consumption | 275W |
| Dimensions | 360 (W) x 300.5 (H) x 344 (D) mm |
| Weight (without package) | 10 kg |

The Magazine Type Multi-Play CD Players with mark and the Magazines with the same mark are compatible for 5-inch (12 cm) discs.

## CD double deck amplifier: XD-J110

### Amplifier Section

[XD-J110]

| | |
|---|---|
| Music Power (DIN) | 60W+60W (1 kHz T.H.D. 1%, 8Ω) |
| Continuous Power Output | 34W+34W<br>(1 kHz T.H.D. 1%, 8Ω) |
| Graphic equalizer frequency band | 60 Hz, 150 Hz,<br>400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15 kHz, ±7 dB |
| S/N (DIN, continuous power/50mW) | |
| PHONO | 68dB/60dB |
| Total Harmonic Distortion (40 Hz to 20,000 Hz, 22.5W, 8Ω)* | No more than 0.2% |
| Input sensitivity/impedance | |
| PHONO (MM) | 2.5 mV/47 kΩ |
| VCR | 150 mV/22 kΩ |

### Double Deck Section

| | |
|---|---|
| Systems | 4 track, 2-channel stereo |
| Heads | Recording/playback head x 1<br>Erasing head x 1<br>Playback head x 1 |
| Motor | DC servo 2 speed motor x 2 |
| Wow and Flutter | No more than 0.09% (W.PEAK) |
| Fast Winding Time | Approximately 105 seconds (C-60 tape) |
| Frequency Response (–20 dB recording): | |
| Type I (Normal) tape | 35 Hz to 14,000 Hz ±6 dB (EIAJ) |
| Type II (HIGH/CrO2) tape | 35 Hz to 15,000 Hz ±6 dB (EIAJ) |
| Signal-to-Noise ratio | |
| Dolby NR OFF | 56 dB |
| Noise Reduction Effect | |
| Dolby B-type NR ON | More than 5 dB (at 5 kHz) |

### CD Section

| | |
|---|---|
| Type | Compact disc digital audio system |
| Frequency response | 4 Hz—20 kHz |
| Number of channels | 2 channels (stereo) |

### Furnished Parts

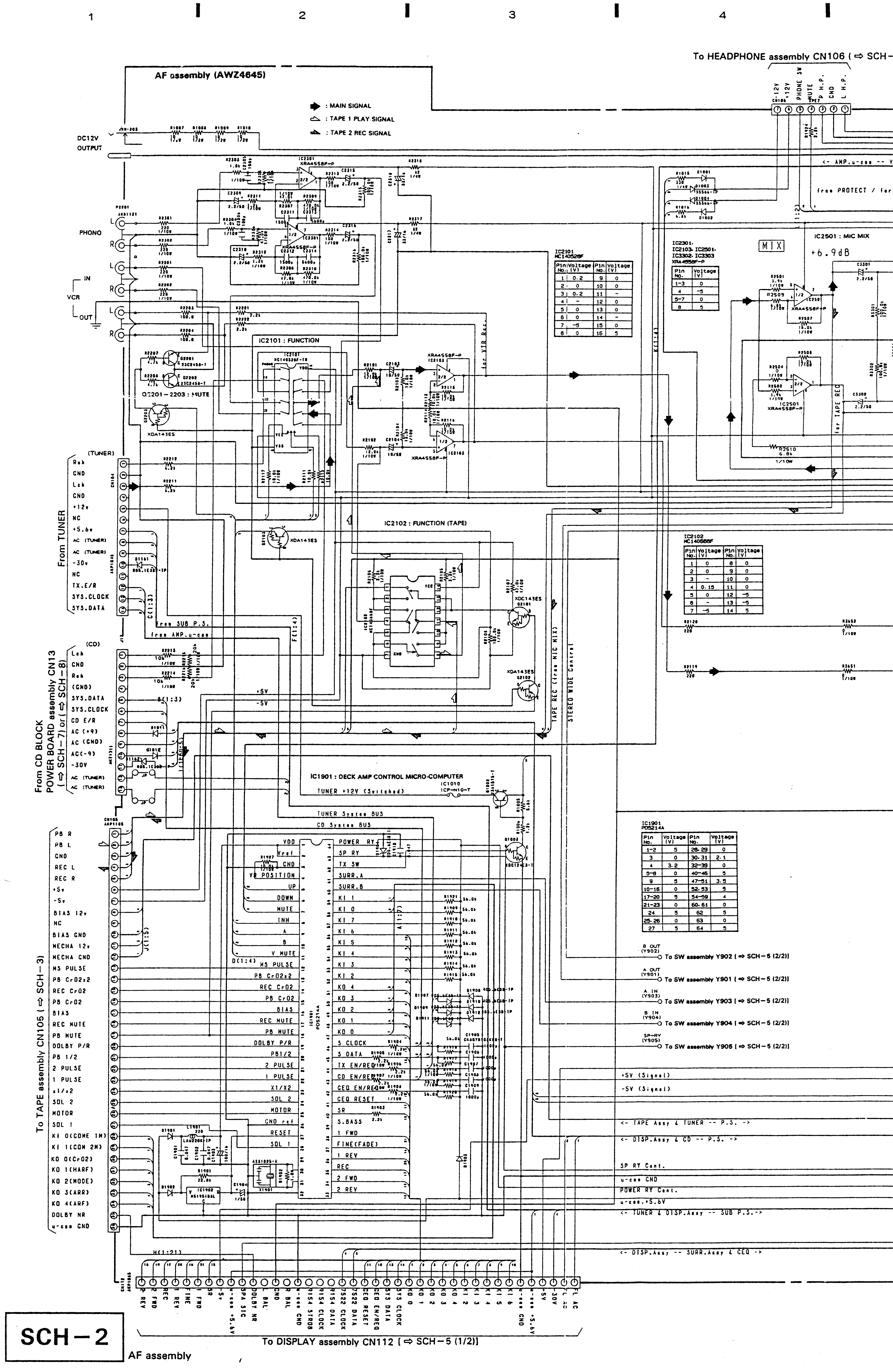
| | |
|---|---|
| Operating Instructions | 1 |
| Remote Control Unit | 1 |
| Dry Cell Batteries | 2 |
| Power cord | 1 |

### Miscellaneous

| | |
|---|---|
| Power requirements | a.c. 220 Volts—, 50/60 Hz |
| Power Consumption | 275W |
| Dimensions | 360 (W) x 300.5 (H) x 344 (D) mm |
| Weight (without package) | |
| XD-J110 | 9kg |

- *Specifications and design subject to possible modification without notice due to improvement.*

* Measured By Audio Spectrum Analyzer.


1
2
3
4
B
C
D
E
F
To HEADPHONE assembly CN106 ( ⇨ SCH-
AF assembly (AWZ4645)
: MAIN SIGNAL
: TAPE 1 PLAY SIGNAL
: TAPE 2 REC SIGNAL
DC12V OUTPUT
PHONO
VCR
IN
OUT
IC2301
XRA4558F-P
Q2201–2203 : MUTE
XDA143ES
IC2101 : FUNCTION
IC2102 : FUNCTION (TAPE)
IC2501 : MIC MIX
MIX
+6.9dB
for VTR Rec.
for TAPE REC
from PROTECT
XDC143ES
TAPE REC (from MIC MIX)
STEREO WIDE Control
(TUNER)
From TUNER
Rch
GND
Lch
GND
+12v
NC
+5.6v
AC (TUNER)
AC (TUNER)
-30v
NC
TX.E/R
SYS.CLOCK
SYS.DATA
from SUB P.S.
from AMP.u-com
(CD)
From CD BLOCK POWER BOARD assembly CN13 ( ⇨ SCH-7) or ( ⇨ SCH-8)
Lch
GND
Rch
(GND)
SYS.DATA
SYS.CLOCK
CD E/R
AC (+9)
AC (GND)
AC(-9)
-30V
AC (TUNER)
AC (TUNER)
+5V
-5V
IC1901 : DECK AMP CONTROL MICRO-COMPUTER
IC1010
TUNER +12V (Switched)
TUNER System BUS
CD System BUS
To TAPE assembly CN105 ( ⇨ SCH-3)
PB R
PB L
GND
REC L
REC R
+5v
-5v
BIAS 12v
NC
BIAS GND
MECHA 12v
MECHA GND
MS PULSE
PB CrO2x2
REC CrO2
PB CrO2
BIAS
REC MUTE
PB MUTE
DOLBY P/R
PB 1/2
2 PULSE
1 PULSE
x1/x2
SOL 2
MOTOR
SOL 1
KI 0(COME 1M)
KI 1(COM 2M)
KO 0(CrO2)
KO 1(HARF)
KO 2(MODE)
KO 3(ARR)
KO 4(ARF)
DOLBY NR
u-com GND
VDD
Vref
GND
VR POSITION
UP
DOWN
MUTE
INH
A
B
V MUTE
POWER RY
SP RY
TX SW
SURR.A
SURR.B
KI 1
KI 7
KI 6
KI 5
KI 4
KI 3
KI 2
KO 4
KO 3
KO 2
KO 1
KO 0
S CLOCK
S DATA
TX EN/REQ
CD EN/REQ
CEQ EN/REQ
CEQ RESET
SR
S.BASS
1 FWD
FINE(FADE)
1 REV
REC
2 FWD
2 REV
RESET
IC1901 PD5214A
B OUT (Y902)
To SW assembly Y902 ( ⇨ SCH-5 (2/2))
A OUT (Y901)
To SW assembly Y901 ( ⇨ SCH-5 (2/2))
A IN (Y903)
To SW assembly Y903 ( ⇨ SCH-5 (2/2))
B IN (Y904)
To SW assembly Y904 ( ⇨ SCH-5 (2/2))
SP-RY (Y905)
To SW assembly Y905 ( ⇨ SCH-5 (2/2))
+5V (Signal)
-5V (Signal)
<- TAPE Assy & TUNER -- P.S. ->
<- DISP.Assy & CD -- P.S. ->
SP RY Cont.
u-com GND
POWER RY Cont.
u-com.+5.6V
<- TUNER & DISP.Assy -- SUB P.S.->
<- DISP.Assy -- SURR.Assy & CEQ ->
<- AMP.u-com -- 
2 REV
2 FWD
REC
1 REV
FINE
1 FWD
SR
5v
u-com +5.6V
SPA SIG
DOLBY NR
L BAL
GND
R BAL
u-com GND
9154 CLOCK
9154 STROB
7522 CLOCK
7522 DATA
CEQ RESET
CEQ EN/REQ
SYS DATA
SYS CLOCK
KO 0
KO 1
KO 2
KO 3
KO 4
KI 2
KI 3
KI 4
KI 5
KI 6
u-com GND
u-com +5.6V
-5V
-30V
FL AC
FL AC
To DISPLAY assembly CN112 ( ⇨ SCH-5 (1/2))
-12V
+12V
PHONE SW
MUTE
P H.P.
GND
L H.P.

IC2101
MC14052BF

| Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|
| 1 | 0.2 | 9 | 0 |
| 2 | 0 | 10 | 0 |
| 3 | 0.2 | 11 | – |
| 4 | – | 12 | 0 |
| 5 | 0 | 13 | 0 |
| 6 | 0 | 14 | – |
| 7 | –5 | 15 | 0 |
| 8 | 0 | 16 | 5 |

IC2301. IC2103. IC2501.
IC3302. IC3303
XRA4558F-P

| Pin No. | Voltage (V) |
|---|---|
| 1–3 | 0 |
| 4 | –5 |
| 5–7 | 0 |
| 8 | 5 |

IC2102
MC14066BF

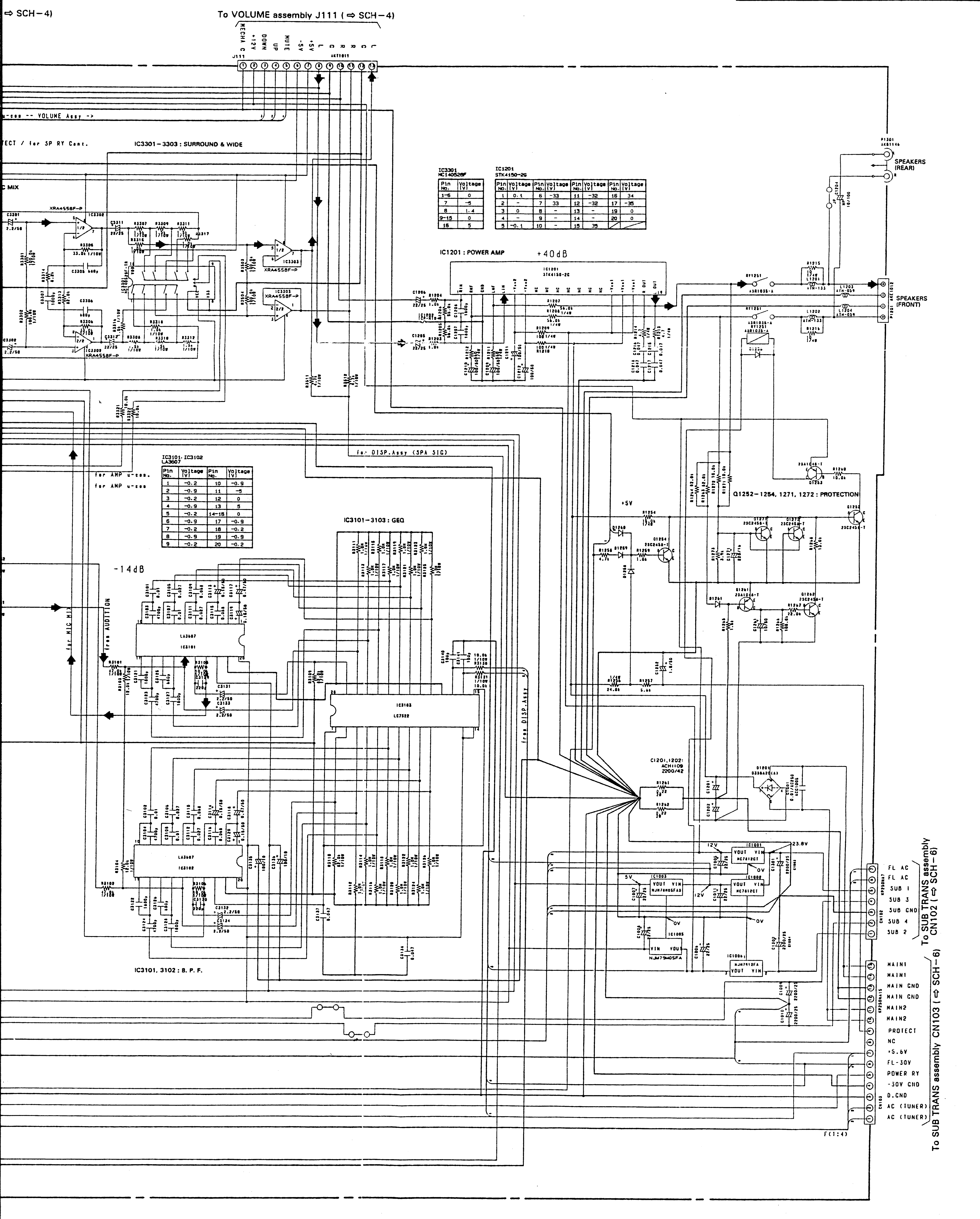
| Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|
| 1 | 0 | 8 | 0 |
| 2 | 0 | 9 | 0 |
| 3 | – | 10 | 0 |
| 4 | 0.15 | 11 | 0 |
| 5 | 0 | 12 | –5 |
| 6 | – | 13 | –5 |
| 7 | –5 | 14 | 5 |

IC1901
PD5214A

| Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|
| 1–2 | 5 | 28. 29 | 0 |
| 3 | 0 | 30. 31 | 2.1 |
| 4 | 3.2 | 32–39 | 0 |
| 5–8 | 0 | 40–46 | 5 |
| 9 | 5 | 47–51 | 3.5 |
| 10–16 | 0 | 52. 53 | 5 |
| 17–20 | 5 | 54–59 | 4 |
| 21–23 | 0 | 60. 61 | 0 |
| 24 | 5 | 62 | 5 |
| 25. 26 | 0 | 63 | 0 |
| 27 | 5 | 64 | 5 |

**SCH–2**

AF assembly


⇨ SCH−4)
To VOLUME assembly J111 (⇨ SCH−4)
MECHA G
+12V
DOWN
UP
MUTE
+5V
-5V
L
G
R
G
L
J111
AKT1011
-- VOLUME Assy ->
ECT / for SP RY Cont.
IC3301−3303 : SURROUND & WIDE
C MIX
XRA4558F-P
IC3302
IC3303
XRA4558F-P
IC1201 : POWER AMP
+40dB
IC1201
STK4150-2G
R IN
RNF
GND
LNF
L IN
-Vcc2
+Vcc2
NC
-Vcc1
+Vcc1
R OUT
L OUT
RY1251
ASR1035-A
L1201
ATH-133
L1202
ATH-133
L1203
ATH-059
L1204
ATH-059
P1301
AKB1146
SPEAKERS (REAR)
SPEAKERS (FRONT)
for DISP.Assy (SPA SIG)
for AMP u-com.
for AMP u-com
Q1252−1254, 1271, 1272 : PROTECTION
+5V
IC3101−3103 : GEQ
-14dB
for MIC MIX
from AUDITION
LA3607
IC3101
IC3103
LC7522
from DISP.Assy
LA3607
IC3102
IC3101, 3102 : B. P. F.
C1201,1202: ACH1109 2200/42
D1201
12V
23.8V
IC1001
NC7812CT
IC1002
NC7812CT
IC1003
NJM78M05FA
IC1005
NJM79M05FA
IC1006
NJM7912FA
VOUT VIN
0V
5V
FL AC
FL AC
SUB 1
SUB 3
SUB GND
SUB 4
SUB 2
CN102
To SUB TRANS assembly CN102 (⇨ SCH−6)
MAIN1
MAIN1
MAIN GND
MAIN GND
MAIN2
MAIN2
PROTECT
NC
+5.6V
FL-30V
POWER RY
-30V GND
D.GND
AC (TUNER)
AC (TUNER)
CN103
To SUB TRANS assembly CN103 (⇨ SCH−6)
F(1:4)

IC3301
MC14052BF

| Pin No. | Voltage (V) |
|---|---|
| 1−6 | 0 |
| 7 | −5 |
| 8 | 1.4 |
| 9−15 | 0 |
| 16 | 5 |

IC1201
STK4150-2G

| Pin No. | Voltage (V) | Pin No. | Voltage (V) | Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|---|---|---|---|
| 1 | 0.1 | 6 | −33 | 11 | −32 | 16 | 34 |
| 2 | − | 7 | 33 | 12 | −32 | 17 | −35 |
| 3 | 0 | 8 | − | 13 | − | 19 | 0 |
| 4 | − | 9 | − | 14 | − | 20 | 0 |
| 5 | −0.1 | 10 | − | 15 | 35 | | |

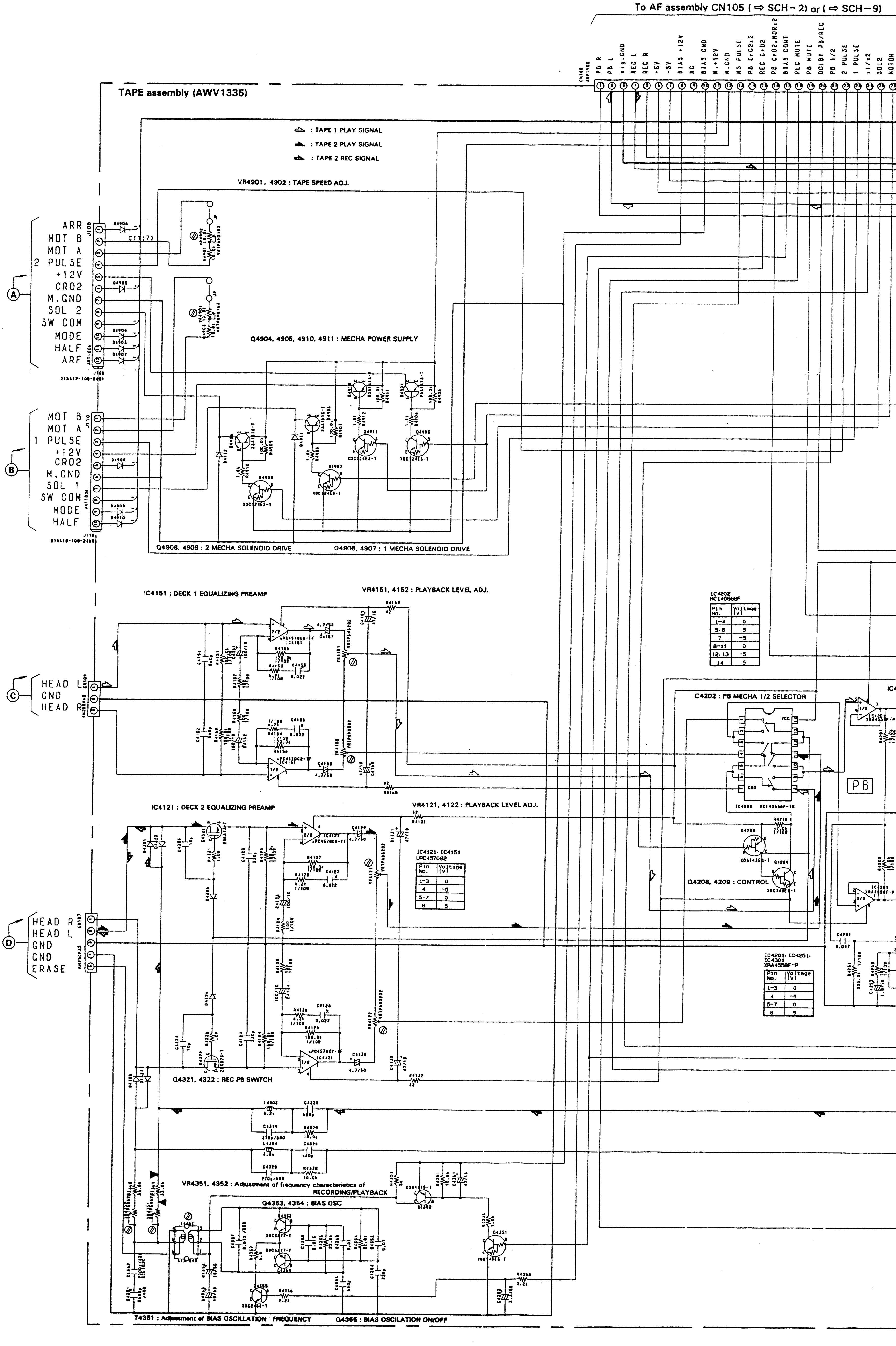
IC3101, IC3102
LA3607

| Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|
| 1 | −0.2 | 10 | −0.9 |
| 2 | −0.9 | 11 | −5 |
| 3 | −0.2 | 12 | 0 |
| 4 | −0.9 | 13 | 5 |
| 5 | −0.2 | 14−16 | 0 |
| 6 | −0.9 | 17 | −0.9 |
| 7 | −0.2 | 18 | −0.2 |
| 8 | −0.9 | 19 | −0.9 |
| 9 | −0.2 | 20 | −0.2 |

**SCH−2**

AF assembly

### 4.1.3 TAPE Assembly, 1 Mecha Unit and 2 Mecha Unit


To AF assembly CN105 (⇨ SCH-2) or (⇨ SCH-9)
CN105 AKP1105
PB R
PB L
sig.GND
REC L
REC R
+5V
-5V
BIAS +12V
NC
BIAS GND
M.+12V
M.GND
MS PULSE
PB CrO2x2
REC CrO2
PB CrO2.NORx2
BIAS CONT
REC MUTE
PB MUTE
DOLBY PB/REC
PB 1/2
2 PULSE
1 PULSE
x1/x2
SOL2
MOTOR
TAPE assembly (AWV1335)
: TAPE 1 PLAY SIGNAL
: TAPE 2 PLAY SIGNAL
: TAPE 2 REC SIGNAL
VR4901, 4902 : TAPE SPEED ADJ.
ARR
MOT B
MOT A
2 PULSE
+12V
CRO2
M.GND
SOL 2
SW COM
MODE
HALF
ARF
J108
MOT B
MOT A
1 PULSE
+12V
CRO2
M.GND
SOL 1
SW COM
MODE
HALF
J110
Q4904, 4905, 4910, 4911 : MECHA POWER SUPPLY
Q4908, 4909 : 2 MECHA SOLENOID DRIVE
Q4906, 4907 : 1 MECHA SOLENOID DRIVE
IC4151 : DECK 1 EQUALIZING PREAMP
VR4151, 4152 : PLAYBACK LEVEL ADJ.
HEAD L
GND
HEAD R
IC4121 : DECK 2 EQUALIZING PREAMP
VR4121, 4122 : PLAYBACK LEVEL ADJ.
HEAD R
HEAD L
GND
GND
ERASE
IC4202 : PB MECHA 1/2 SELECTOR
PB
Q4208, 4209 : CONTROL
Q4321, 4322 : REC PB SWITCH
VR4351, 4352 : Adjustment of frequency characteristics of RECORDING/PLAYBACK
Q4353, 4354 : BIAS OSC
T4351 : Adjustment of BIAS OSCILLATION FREQUENCY
Q4355 : BIAS OSCILLATION ON/OFF
A
B
C
D
E
F

IC4202
HC14066BF

| Pin No. | Voltage (V) |
|---|---|
| 1-4 | 0 |
| 5.6 | 5 |
| 7 | -5 |
| 8-11 | 0 |
| 12.13 | -5 |
| 14 | 5 |

IC4121, IC4151
UPC4570G2

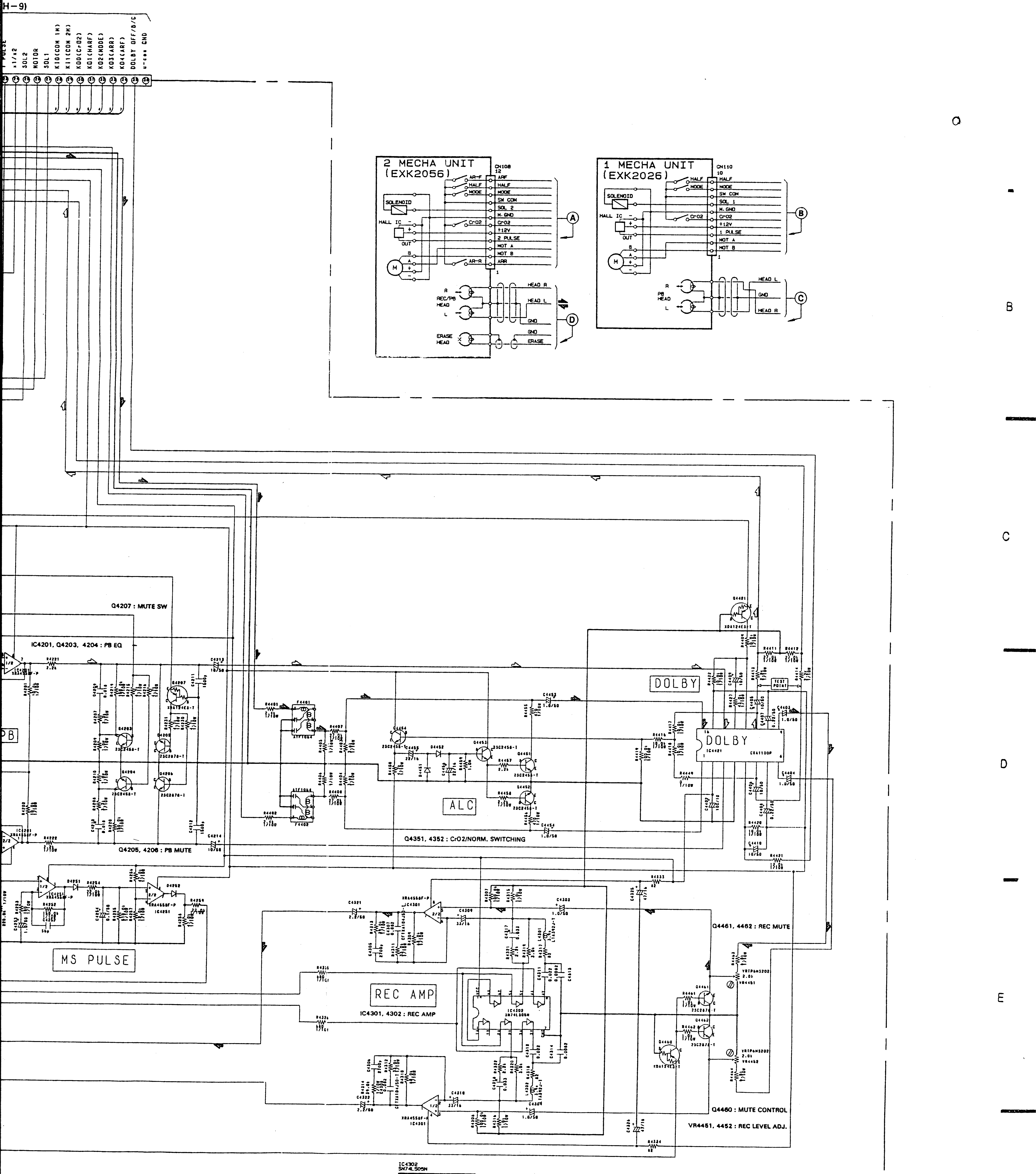
| Pin No. | Voltage (V) |
|---|---|
| 1-3 | 0 |
| 4 | -5 |
| 5-7 | 0 |
| 8 | 5 |

IC4201, IC4251, IC4301
XRA4558F-P

| Pin No. | Voltage (V) |
|---|---|
| 1-3 | 0 |
| 4 | -5 |
| 5-7 | 0 |
| 8 | 5 |

**SCH-3**

TAPE assembly
1 Mecha Unit
2 Mecha Unit

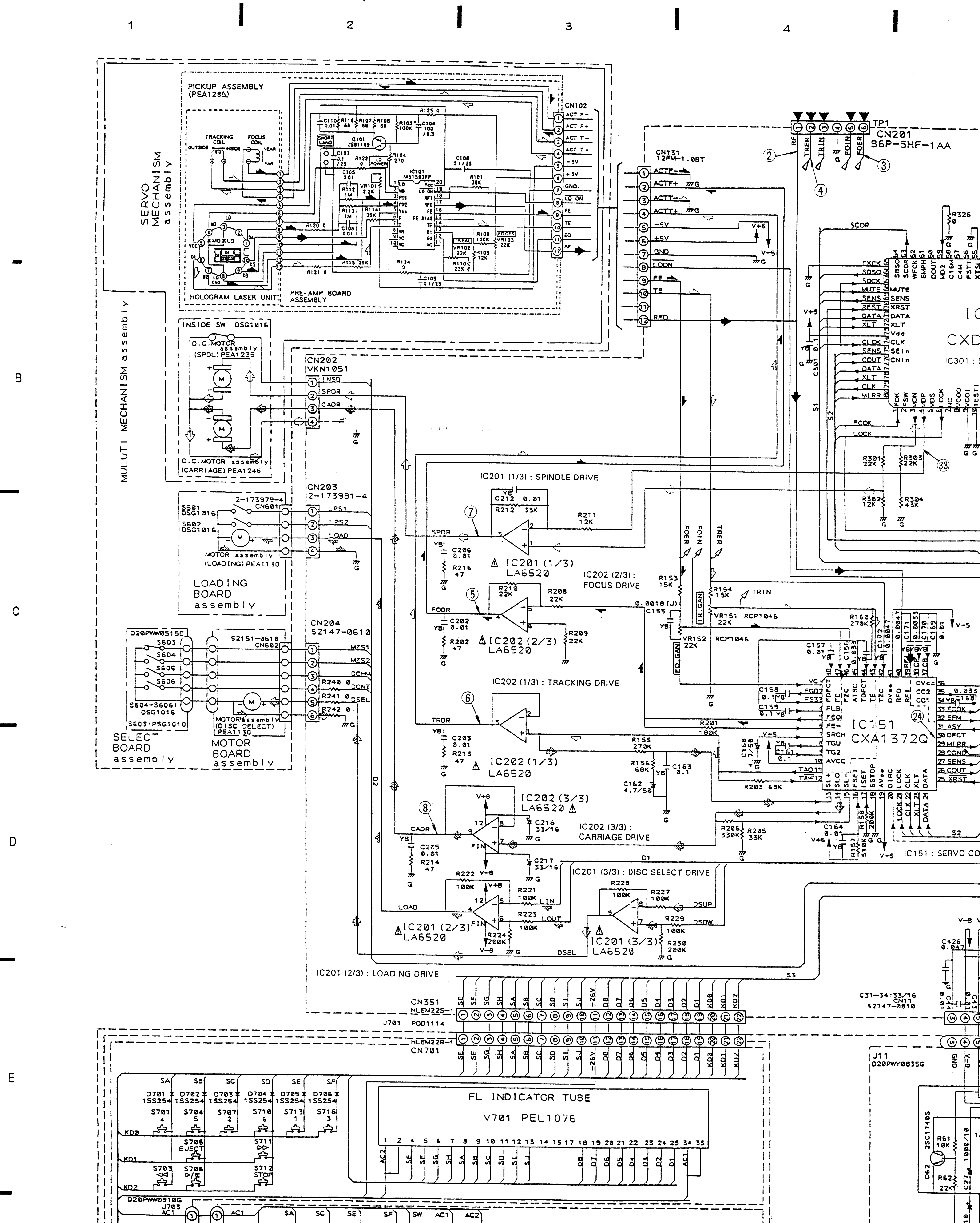

H-9)
PULSE
x1/x2
SOL2
MOTOR
SOL1
K10(COM 1M)
K11(COM 2M)
K00(CrO2)
K01(HARF)
K02(MODE)
K03(ARR)
K04(ARF)
DOLBY OFF/B/C
u-com GND
2 MECHA UNIT
(EXK2056)
CN108
12
AR-F
HALF
MODE
SOLENOID
HALL IC
OUT
CrO2
AR-R
ARF
HALF
MODE
SW COM
SOL 2
M.GND
CrO2
+12V
2 PULSE
MOT A
MOT B
ARR
REC/PB HEAD
ERASE HEAD
HEAD R
HEAD L
GND
GND
ERASE
A
D
1 MECHA UNIT
(EXK2026)
CN110
10
HALF
MODE
SOLENOID
HALL IC
OUT
CrO2
HALF
MODE
SW COM
SOL 1
M.GND
CrO2
+12V
1 PULSE
MOT A
MOT B
PB HEAD
HEAD L
GND
HEAD R
B
C
Q4207 : MUTE SW
IC4201, Q4203, 4204 : PB EQ
PB
Q4205, 4206 : PB MUTE
MS PULSE
DOLBY
DOLBY
IC4421
CXA1100P
TEST POINT
ALC
Q4351, 4352 : CrO2/NORM. SWITCHING
REC AMP
IC4301, 4302 : REC AMP
IC4302
SN74LS05N
XRA4558F-P
IC4301
Q4461, 4462 : REC MUTE
VR4451
VR4452
Q4460 : MUTE CONTROL
VR4451, 4452 : REC LEVEL ADJ.

IC4302
SN74LS05N

| Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|
| 1 | 0 | 8 | 0 |
| 2 | - | 9 | 5 |
| 3 | 0.4 | 10 | 7.2 |
| 4 | 0 | 11 | 0.4 |
| 5 | 4.5 | 12 | - |
| 6 | 0 | 13 | 0 |
| 7 | 0 | 14 | 5 |

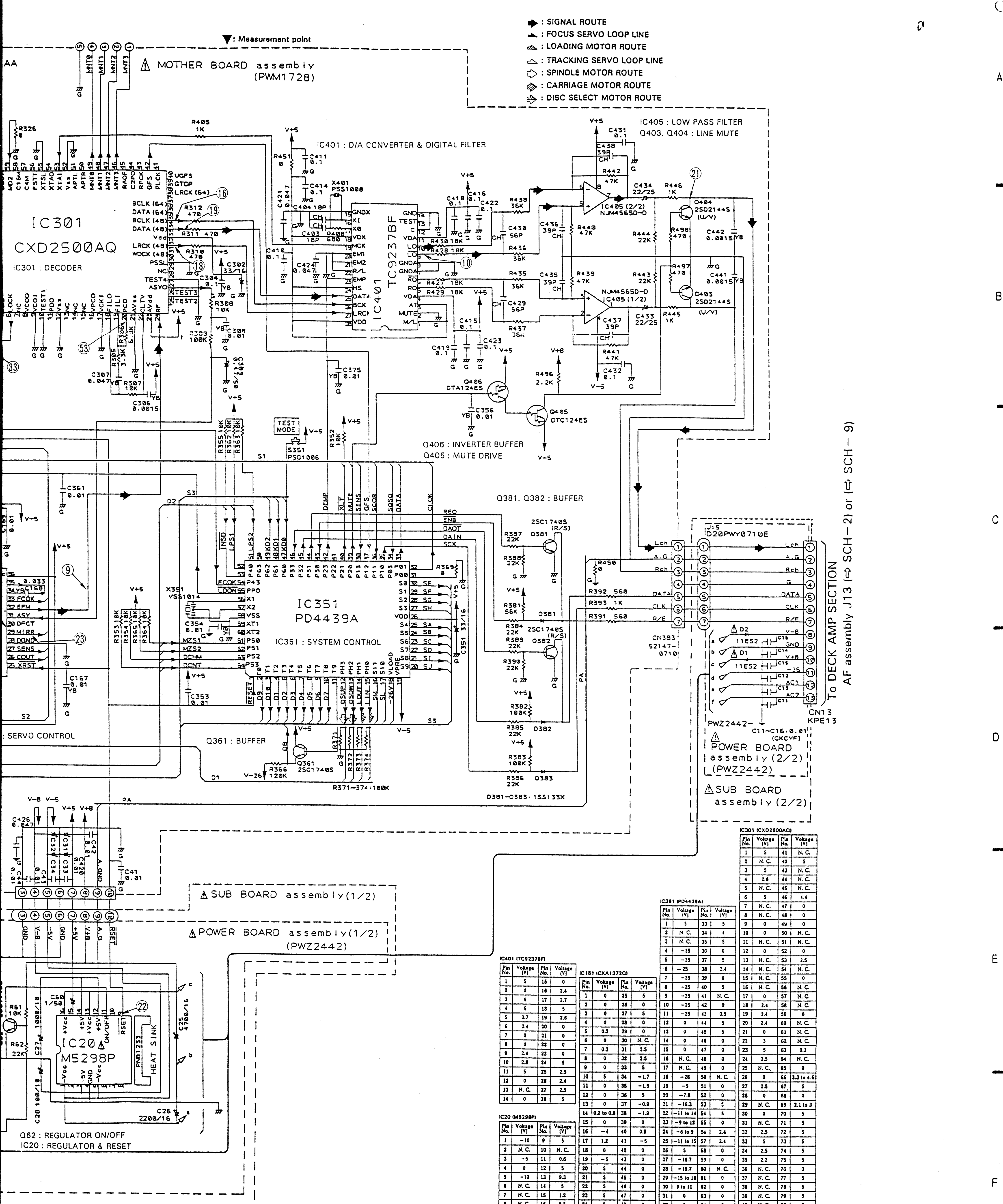
TAPE assembly
1 Mecha Unit
2 Mecha Unit

**SCH-3**


PICKUP ASSEMBLY (PEA1285)
SERVO MECHANISM assembly
HOLOGRAM LASER UNIT
PRE-AMP BOARD ASSEMBLY
TRACKING COIL
FOCUS COIL
IC101 M51593FP
Q101 2SB1189
CN102
CN201 B6P-SHF-1AA
TP1
CN731 12FM-1.0BT
MULUTI MECHANISM assembly
INSIDE SW DSG1016
D.C.MOTOR assembly (SPDL) PEA1235
D.C.MOTOR assembly (CARRIAGE) PEA1246
CN202 VKN1051
CN203 2-173981-4
CN601 2-173979-4
S601 DSG1016
S602 DSG1016
MOTOR assembly (LOADING) PEA1130
LOADING BOARD assembly
CN204 52147-0610
CN602 52151-0610
D20PWW0515E
S603:PSG1010
S604-S606: DSG1016
MOTOR assembly (DISC SELECT) PEA1130
SELECT BOARD assembly
MOTOR BOARD assembly
IC201 (1/3) : SPINDLE DRIVE
IC201 (1/3) LA6520
IC202 (2/3) : FOCUS DRIVE
IC202 (2/3) LA6520
IC202 (1/3) : TRACKING DRIVE
IC202 (1/3) LA6520
IC202 (3/3) LA6520
IC202 (3/3) : CARRIAGE DRIVE
IC201 (3/3) : DISC SELECT DRIVE
IC201 (3/3) LA6520
IC201 (2/3) LA6520
IC201 (2/3) : LOADING DRIVE
IC151 CXA1372Q
IC151 : SERVO CO
IC301
CXD
VR151 RCP1046
VR152 RCP1046
CN351 HLEM22S-1
J701 PDD1114
HLEM22R-1
CN701
FL INDICATOR TUBE
V701 PEL1076
D20PWW0910G
J703
S701-718:PSG1006
DISPLAY BOARD assembly (PWZ2443)
J704 D20PWY0335E
CN14 52147-0310
J11 D20PWY0835G
CN11 52147-0810
Q62 2SC1740S
1
2
3
4
B
C
D
E
F

**SCH−7**

MOTHER BOARD assembly
POWER BOARD assembly
DISPLAY BORAD assembly


▼: Measurement point
➡: SIGNAL ROUTE
: FOCUS SERVO LOOP LINE
: LOADING MOTOR ROUTE
: TRACKING SERVO LOOP LINE
: SPINDLE MOTOR ROUTE
: CARRIAGE MOTOR ROUTE
: DISC SELECT MOTOR ROUTE
⚠ MOTHER BOARD assembly (PWM1728)
IC301 CXD2500AQ
IC301 : DECODER
IC401 : D/A CONVERTER & DIGITAL FILTER
IC401 TC9237BF
IC405 : LOW PASS FILTER
Q403, Q404 : LINE MUTE
IC405 (2/2) NJM4565D-D
NJM4565D-D IC405 (1/2)
Q404 2SD2144S (U/V)
Q403 2SD2144S (U/V)
Q406 DTA124ES
Q405 DTC124ES
Q406 : INVERTER BUFFER
Q405 : MUTE DRIVE
TEST MODE
S351 PSG1006
X401 PSS1008
X351 VSS1014
Q381, Q382 : BUFFER
Q381 2SC1740S (R/S)
Q382 2SC1740S (R/S)
D381–D383 : 1SS133X
IC351 PD4439A
IC351 : SYSTEM CONTROL
Q361 : BUFFER
Q361 2SC1740S
R371–374 : 100K
: SERVO CONTROL
J15 D20PWY0710E
CN383 52147-0710
CN13 KPE13
To DECK AMP SECTION
AF assembly J13 (⇨ SCH-2) or (⇨ SCH-9)
PWZ2442-
C11–C16 : 0.01 (CKCYF)
⚠ POWER BOARD assembly (2/2) (PWZ2442)
⚠ SUB BOARD assembly (2/2)
⚠ SUB BOARD assembly (1/2)
⚠ POWER BOARD assembly (1/2) (PWZ2442)
IC20 ⚠ M5298P
HEAT SINK
Q62 : REGULATOR ON/OFF
IC20 : REGULATOR & RESET

IC401 (TC9237BF)

| Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|
| 1 | 5 | 15 | 0 |
| 2 | 0 | 16 | 2.4 |
| 3 | 5 | 17 | 2.7 |
| 4 | 5 | 18 | 5 |
| 5 | 2.7 | 19 | 2.6 |
| 6 | 2.4 | 20 | 0 |
| 7 | 0 | 21 | 0 |
| 8 | 0 | 22 | 0 |
| 9 | 2.4 | 23 | 0 |
| 10 | 2.8 | 24 | 5 |
| 11 | 5 | 25 | 2.5 |
| 12 | 0 | 26 | 2.4 |
| 13 | N. C. | 27 | 2.5 |
| 14 | 0 | 28 | 5 |

IC20 (M5298P)

| Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|
| 1 | −10 | 9 | 5 |
| 2 | N. C. | 10 | N. C. |
| 3 | −5 | 11 | 0.6 |
| 4 | 0 | 12 | 5 |
| 5 | −10 | 13 | 9.3 |
| 6 | N. C. | 14 | 5 |
| 7 | N. C. | 15 | 1.2 |
| 8 | N. C. | 16 | 9.3 |

IC161 (CXA1372Q)

| Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|
| 1 | 0 | 25 | 5 |
| 2 | 0 | 26 | 0 |
| 3 | 0 | 27 | 5 |
| 4 | 0 | 28 | 0 |
| 5 | 0.3 | 29 | 0 |
| 6 | 0 | 30 | N. C. |
| 7 | 0.3 | 31 | 2.5 |
| 8 | 0 | 32 | 2.5 |
| 9 | 0 | 33 | 5 |
| 10 | 5 | 34 | −1.7 |
| 11 | 0 | 35 | −1.9 |
| 12 | 0 | 36 | 5 |
| 13 | 0 | 37 | −0.9 |
| 14 | 0.2 to 0.8 | 38 | −1.9 |
| 15 | 0 | 39 | 0 |
| 16 | −4 | 40 | 0.9 |
| 17 | 1.2 | 41 | −5 |
| 18 | 0 | 42 | 0 |
| 19 | −5 | 43 | 0 |
| 20 | 5 | 44 | 0 |
| 21 | 5 | 45 | 0 |
| 22 | 5 | 46 | 0 |
| 23 | 5 | 47 | 0 |
| 24 | 5 | 48 | 0 |

IC351 (PD4439A)

| Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|
| 1 | 5 | 33 | 5 |
| 2 | N. C. | 34 | 4 |
| 3 | N. C. | 35 | 5 |
| 4 | −25 | 36 | 0 |
| 5 | −25 | 37 | 5 |
| 6 | −25 | 38 | 2.4 |
| 7 | −25 | 39 | 0 |
| 8 | −25 | 40 | 5 |
| 9 | −25 | 41 | N. C. |
| 10 | −25 | 42 | 0 |
| 11 | −25 | 43 | 0.5 |
| 12 | 0 | 44 | 5 |
| 13 | 0 | 45 | 5 |
| 14 | 0 | 46 | 0 |
| 15 | 0 | 47 | 0 |
| 16 | N. C. | 48 | 0 |
| 17 | N. C. | 49 | 0 |
| 18 | −28 | 50 | N. C. |
| 19 | −5 | 51 | 0 |
| 20 | −7.8 | 52 | 0 |
| 21 | −16.3 | 53 | 5 |
| 22 | −11 to 14 | 54 | 5 |
| 23 | −9 to 12 | 55 | 0 |
| 24 | −6 to 9 | 56 | 2.4 |
| 25 | −11 to 15 | 57 | 2.4 |
| 26 | 5 | 58 | 0 |
| 27 | −18.7 | 59 | 0 |
| 28 | −18.7 | 60 | N. C. |
| 29 | −15 to 18 | 61 | 0 |
| 30 | 9 to 11 | 62 | 0 |
| 31 | 0 | 63 | 0 |
| 32 | 5 | 64 | 0 |

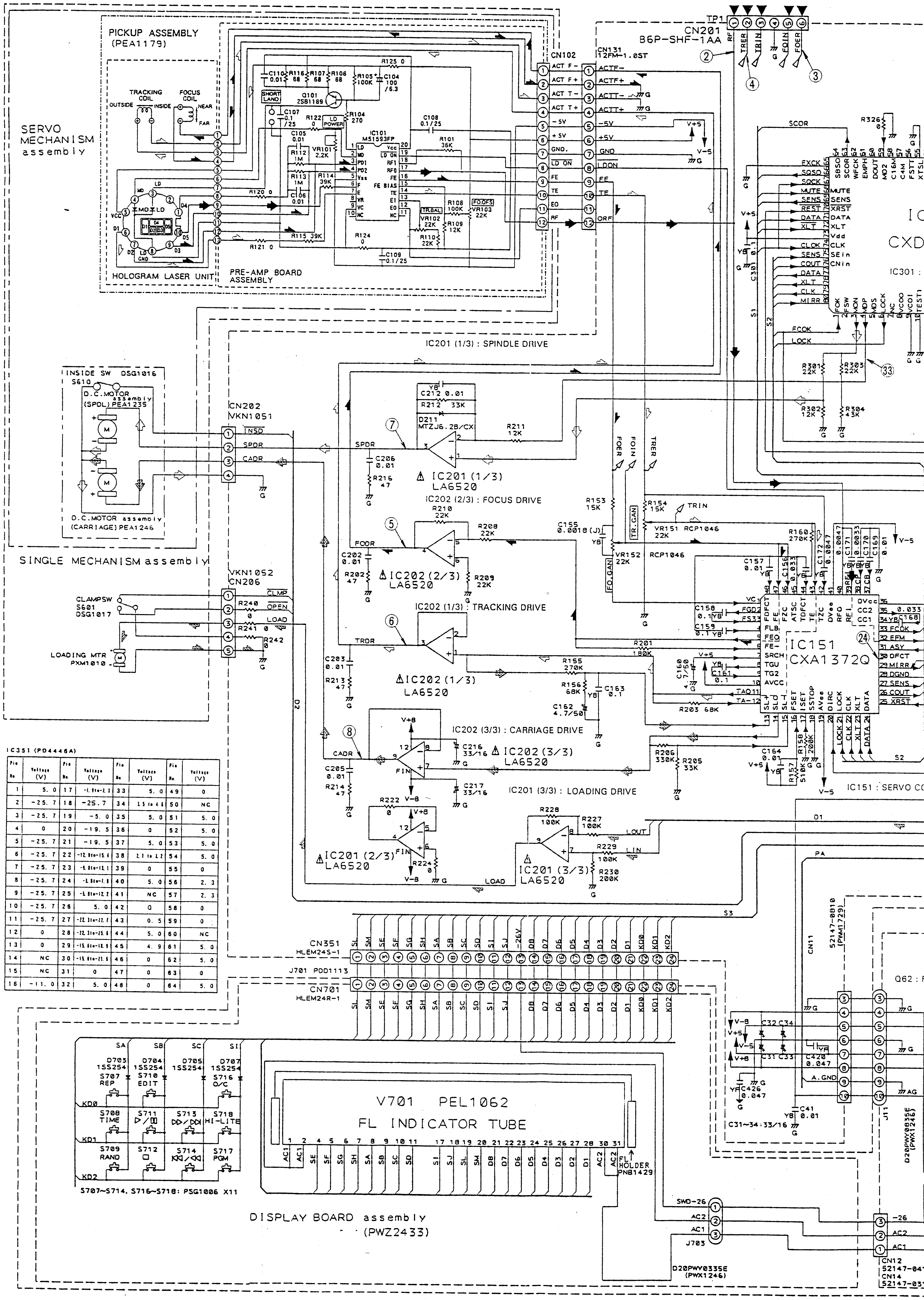
IC301 (CXD2500AQ)

| Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|
| 1 | 5 | 41 | N. C. |
| 2 | N. C. | 42 | 5 |
| 3 | 5 | 43 | N. C. |
| 4 | 2.6 | 44 | N. C. |
| 5 | N. C. | 45 | N. C. |
| 6 | 5 | 46 | 4.4 |
| 7 | N. C. | 47 | 0 |
| 8 | N. C. | 48 | 0 |
| 9 | 0 | 49 | 0 |
| 10 | 0 | 50 | N. C. |
| 11 | N. C. | 51 | N. C. |
| 12 | 0 | 52 | 0 |
| 13 | N. C. | 53 | 2.5 |
| 14 | N. C. | 54 | N. C. |
| 15 | N. C. | 55 | 0 |
| 16 | N. C. | 56 | N. C. |
| 17 | 0 | 57 | N. C. |
| 18 | 2.4 | 58 | N. C. |
| 19 | 2.4 | 59 | 0 |
| 20 | 2.4 | 60 | N. C. |
| 21 | 0 | 61 | N. C. |
| 22 | 3 | 62 | N. C. |
| 23 | 5 | 63 | 0.1 |
| 24 | 2.5 | 64 | N. C. |
| 25 | N. C. | 65 | 0 |
| 26 | 0 | 66 | 3.3 to 4.6 |
| 27 | 2.5 | 67 | 5 |
| 28 | 0 | 68 | 0 |
| 29 | N. C. | 69 | 2.1 to 3 |
| 30 | 0 | 70 | 5 |
| 31 | N. C. | 71 | 5 |
| 32 | 2.5 | 72 | 5 |
| 33 | 5 | 73 | 5 |
| 34 | 2.5 | 74 | 5 |
| 35 | 2.2 | 75 | 5 |
| 36 | N. C. | 76 | 0 |
| 37 | N. C. | 77 | 5 |
| 38 | N. C. | 78 | 5 |
| 39 | N. C. | 79 | 5 |
| 40 | N. C. | 80 | 0 |

MOTHER BOARD assembly
POWER BOARD assembly
DISPLAY BORAD assembly

**SCH−7**

### 4.2.2 Single CD Unit (For XD−J110)

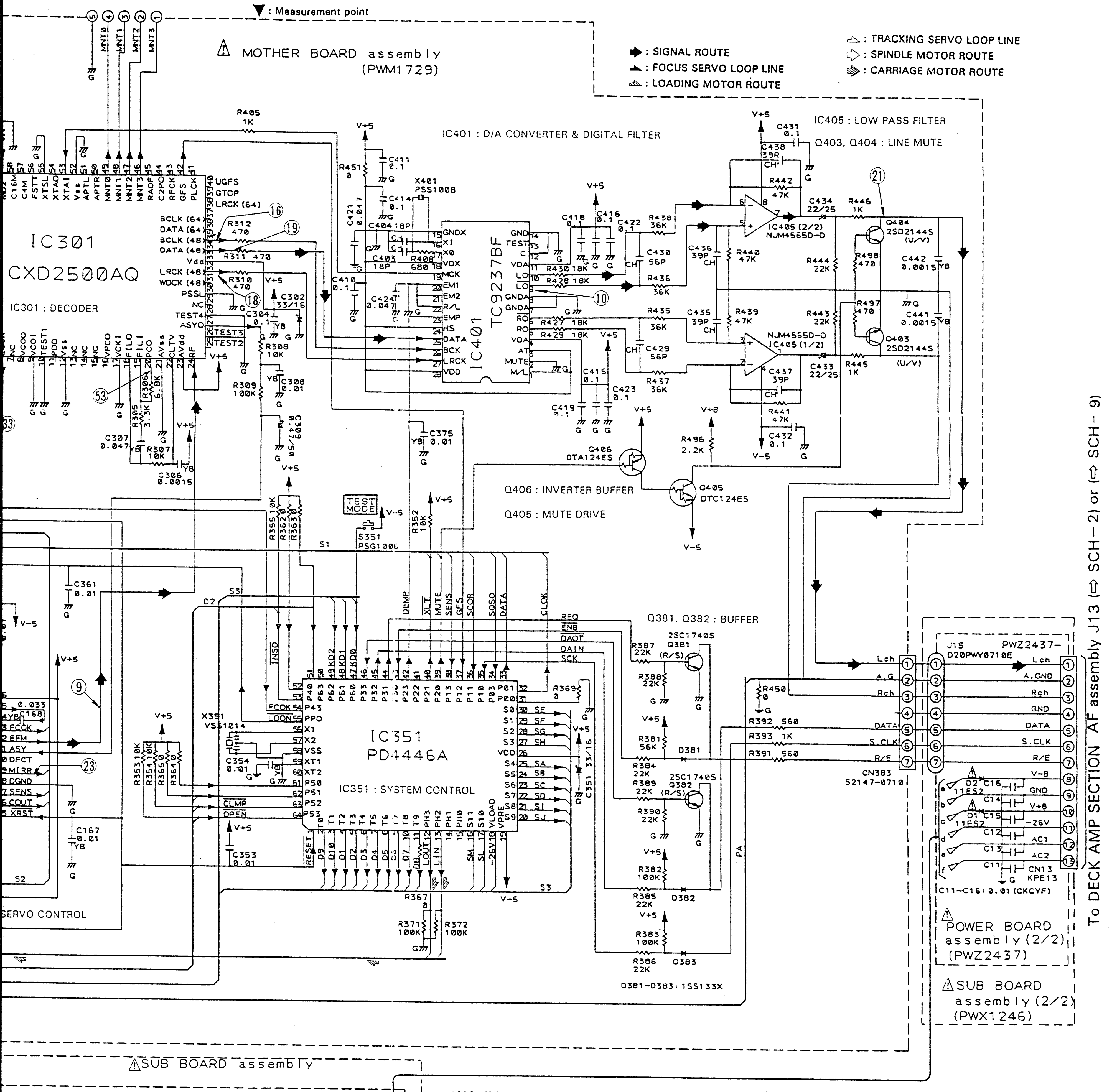

PICKUP ASSEMBLY
(PEA1179)
SERVO MECHANISM assembly
TRACKING COIL
FOCUS COIL
OUTSIDE
INSIDE
NEAR
FAR
HOLOGRAM LASER UNIT
PRE-AMP BOARD ASSEMBLY
IC101 M51593FP
Q101 2SB1189
SHORT LAND
LD POWER
TR.BAL VR102 22K
FOOFS VR103 22K
CN102
CN131 12FM-1.0ST
ACT F−
ACT F+
ACT T−
ACT T+
−5V
+5V
GND.
LD ON
FE
TE
EO
RF
TP1
CN201 B6P-SHF-1AA
TRER
TRIN
FOIN
FOER
SCOR
IC201 (1/3) : SPINDLE DRIVE
INSIDE SW DSG1016 S610
D.C.MOTOR assembly (SPDL) PEA1235
D.C.MOTOR assembly (CARRIAGE) PEA1246
CN202 VKN1051
INSD
SPDR
CADR
SINGLE MECHANISM assembly
IC201 (1/3) LA6520
MTZJ6.2B/CX
IC202 (2/3) : FOCUS DRIVE
IC202 (2/3) LA6520
IC202 (1/3) : TRACKING DRIVE
IC202 (1/3) LA6520
IC202 (3/3) : CARRIAGE DRIVE
IC202 (3/3) LA6520
IC201 (3/3) : LOADING DRIVE
IC201 (3/3) LA6520
IC201 (2/3) LA6520
VKN1052 CN206
CLAMP
OPEN
LOAD
CLAMPSW S601 DSG1017
LOADING MTR PXM1010
TR.GAN
FO.GAN
VR151 RCP1046
VR152 RCP1046
IC151 CXA1372Q
IC151 : SERVO CO
IC301
CXD
CN351 HLEM24S-1
J701 PDD1113
CN701 HLEM24R-1
V701 PEL1062
FL INDICATOR TUBE
FL HOLDER PNB1429
S707 REP
S710 EDIT
S716 O/C
S708 TIME
S711 ▷/◫
S713 ▷▷/▷▷|
S718 HI-LITE
S709 RAND
S712 □
S714 |◁◁/◁◁
S717 PGM
KD0
KD1
KD2
S707~S714, S716~S718: PSG1006 X11
DISPLAY BOARD assembly
(PWZ2433)
J703
D20PWY0335E (PWX1246)
CN11
52147-0810 (PWM1729)
CN12
CN14
Q62
A.GND
C31~34:33/16
LOUT
LIN
S1
S2
S3
D1
D2
PA

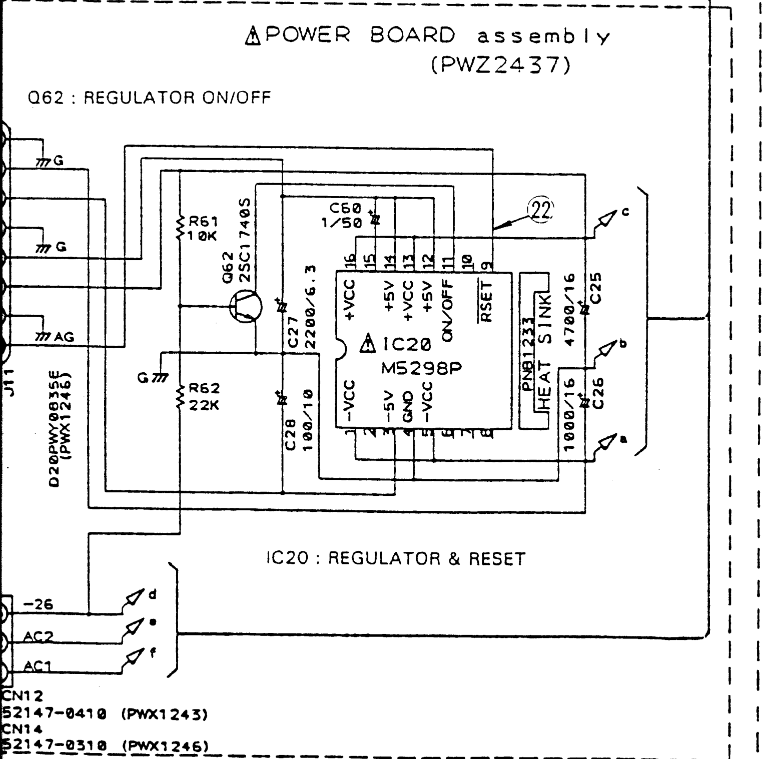
IC351 (PD4446A)

| Pin No. | Voltage (V) | Pin No. | Voltage (V) | Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|---|---|---|---|
| 1 | 5.0 | 17 | -1.9to-2.3 | 33 | 5.0 | 49 | 0 |
| 2 | −25.7 | 18 | −25.7 | 34 | 1.5 to 4.8 | 50 | NC |
| 3 | −25.7 | 19 | −5.0 | 35 | 5.0 | 51 | 5.0 |
| 4 | 0 | 20 | −19.5 | 36 | 0 | 52 | 5.0 |
| 5 | −25.7 | 21 | −19.5 | 37 | 5.0 | 53 | 5.0 |
| 6 | −25.7 | 22 | -12.8to-15.4 | 38 | 2.1 to 3.2 | 54 | 5.0 |
| 7 | −25.7 | 23 | -4.8to-12.1 | 39 | 0 | 55 | 0 |
| 8 | −25.7 | 24 | -2.8to-7.8 | 40 | 5.0 | 56 | 2.3 |
| 9 | −25.7 | 25 | -5.9to-12.2 | 41 | NC | 57 | 2.3 |
| 10 | −25.7 | 26 | 5.0 | 42 | 0 | 58 | 0 |
| 11 | −25.7 | 27 | -22.3to-22.7 | 43 | 0.5 | 59 | 0 |
| 12 | 0 | 28 | -22.3to-25.6 | 44 | 5.0 | 60 | NC |
| 13 | 0 | 29 | -15.6to-12.9 | 45 | 4.9 | 61 | 5.0 |
| 14 | NC | 30 | -15.8to-21.5 | 46 | 0 | 62 | 5.0 |
| 15 | NC | 31 | 0 | 47 | 0 | 63 | 0 |
| 16 | −11.0 | 32 | 5.0 | 48 | 0 | 64 | 5.0 |

**SCH−8**

MOTHER BOARD assembly
POWER BOARD assembly
DISPLAY BORAD assembly


▼: Measurement point
MOTHER BOARD assembly (PWM1729)
SIGNAL ROUTE
FOCUS SERVO LOOP LINE
LOADING MOTOR ROUTE
TRACKING SERVO LOOP LINE
SPINDLE MOTOR ROUTE
CARRIAGE MOTOR ROUTE
IC401 : D/A CONVERTER & DIGITAL FILTER
IC405 : LOW PASS FILTER
Q403, Q404 : LINE MUTE
IC301
CXD2500AQ
IC301 : DECODER
TC9237BF
IC401
NJM4565D-D
IC405 (2/2)
IC405 (1/2)
2SD2144S
Q406 : INVERTER BUFFER
Q405 : MUTE DRIVE
DTA124ES
DTC124ES
TEST MODE
S351 PSG1006
Q381, Q382 : BUFFER
2SC1740S
IC351
PD4446A
IC351 : SYSTEM CONTROL
D381–D383 : 1SS133X
J15 D20PWY0710E
PWZ2437-
CN383 52147-0710
CN13 KPE13
C11~C16 : 0.01 (CKCYF)
POWER BOARD assembly (2/2) (PWZ2437)
SUB BOARD assembly (2/2) (PWX1246)
To DECK AMP SECTION AF assembly J13 (⇧ SCH−2) or (⇧ SCH−9)
SERVO CONTROL


SUB BOARD assembly
POWER BOARD assembly (PWZ2437)
Q62 : REGULATOR ON/OFF
Q62 2SC1740S
IC20
M5298P
IC20 : REGULATOR & RESET
CN12 52147-0410 (PWX1243)
CN14 52147-0310 (PWX1246)
D20PWY0835E (PWX1246)

IC151 (CXA1372Q)

| Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|
| 1 | 0 | 25 | 5.0 |
| 2 | 0 | 26 | 0 |
| 3 | 0 | 27 | 4.9 |
| 4 | 0 | 28 | 0 |
| 5 | 0.4 | 29 | 0 |
| 6 | 0 | 30 | NC |
| 7 | 0.3 | 31 | 2.5 |
| 8 | 0 | 32 | 2.6 |
| 9 | 0 | 33 | 4.9 |
| 10 | 5.0 | 34 | −1.7 |
| 11 | 0 | 35 | −1.9 |
| 12 | 0 | 36 | 5.0 |
| 13 | 0 | 37 | −0.9 |
| 14 | [illegible] | 38 | −2.1 |
| 15 | 0 | 39 | 0 |
| 16 | −4.0 | 40 | 0.9 |
| 17 | 1.2 | 41 | −5.0 |
| 18 | 0 | 42 | 0 |
| 19 | −5.0 | 43 | 0 |
| 20 | 5.0 | 44 | 0 |
| 21 | 5.0 | 45 | 0 |
| 22 | 4.9 | 46 | 0 |
| 23 | 5.0 | 47 | 0 |
| 24 | 4.9 | 48 | 0 |

IC401 (TC9237BF)

| Pin No. | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|
| 1 | 5.0 | 15 | 0 |
| 2 | 0 | 16 | 2.5 |
| 3 | 5.0 | 17 | 2.8 |
| 4 | 5.0 | 18 | 5.0 |
| 5 | 2.8 | 19 | 3.0 |
| 6 | 2.5 | 20 | 0 |
| 7 | 0 | 21 | 0 |
| 8 | 0 | 22 | 0 |
| 9 | 2.5 | 23 | 0 |
| 10 | 2.8 | 24 | 5.0 |
| 11 | 5.0 | 25 | 2.5 |
| 12 | 0 | 26 | 2.4 |
| 13 | NC | 27 | 2.5 |
| 14 | 0 | 28 | 5.0 |

IC301 (CXD2500AQ)

| Pin No. | Voltage (V) | Pin No. | Voltage (V) | Pin No | Voltage (V) | Pin No. | Voltage (V) |
|---|---|---|---|---|---|---|---|
| 1 | 5.0 | 21 | 0 | 41 | NC | 61 | NC |
| 2 | NC | 22 | 2.8 | 42 | 5.0 | 62 | NC |
| 3 | 5.0 | 23 | 5.0 | 43 | NC | 63 | [illegible] |
| 4 | 2.6 | 24 | 2.5 | 44 | NC | 64 | NC |
| 5 | N.C. | 25 | NC | 45 | NC | 65 | 0 |
| 6 | 5..0 | 26 | 0 | 46 | 4.4 | 66 | [illegible] |
| 7 | NC | 27 | 2.5 | 47 | 0 | 67 | 4.9 |
| 8 | NC | 28 | 0 | 48 | 0 | 68 | 0 |
| 9 | 0 | 29 | NC | 49 | 0 | 69 | [illegible] |
| 10 | 0 | 30 | 0 | 50 | NC | 70 | 5.0 |
| 11 | NC | 31 | NC | 51 | NC | 71 | 5.0 |
| 12 | 0 | 32 | 2.5 | 52 | 0 | 72 | 5.0 |
| 13 | NC | 33 | 5.0 | 53 | 2.5 | 73 | 5.0 |
| 14 | NC | 34 | 2.5 | 54 | NC | 74 | 5.0 |
| 15 | NC | 35 | 2.3 | 55 | 0 | 75 | 5.0 |
| 16 | NC | 36 | NC | 56 | NC | 76 | 0 |
| 17 | 0 | 37 | NC | 57 | NC | 77 | 5.0 |
| 18 | 2.8 | 38 | NC | 58 | NC | 78 | 5.0 |
| 19 | 2.4 | 39 | NC | 59 | 0 | 79 | 5.0 |
| 20 | 2.4 | 40 | NC | 60 | NC | 80 | 0 |

IC20 (M5298P)

| Pin No. | Voltage (V) |
|---|---|
| 1 | −10.0 |
| 2 | NC |
| 3 | −5.0 |
| 4 | 0 |
| 5 | −10.0 |
| 6 | NC |
| 7 | NC |
| 8 | NC |
| 9 | 5.0 |
| 10 | NC |
| 11 | 0.5 |
| 12 | 5.0 |
| 13 | 9.6 |
| 14 | 5.0 |
| 15 | 1.2 |
| 16 | 9.6 |

MOTHER BOARD assembly
POWER BOARD assembly
DISPLAY BORAD assembly

**SCH−8**

# 7. FOR XD – J115M/HB, HEWZIW, XD – J110/HB AND HEWZIW TYPES

*NOTES :*

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

## 7.1 FOR XD – J115M/HB AND HEWZIW

### Contrast of Miscellaneous Parts

XD – J115M/HB, HEWZIW and HE have the same construction except for the following :

| Mark | Symbol & Description | Part No. | | | Remarks |
|---|---|---|---|---|---|
| | | HE type | HB type | HEWZIW type | |
| | AF assembly | AWZ4645 | AWZ4645 | AWZ4646 | |
| | VOLUME assembly | AWZ4653 | AWZ4653 | AWZ4654 | |
| | HEADPHONE assembly | AWZ4666 | AWZ4666 | AWZ4667 | |
| NSP | TRANS CONNECT assembly | AWZ4672 | AWZ4672 | AWZ4673 | |
| | SUB TRANS assembly | AWZ4678 | AWZ4681 | AWZ4679 | |
| ⚠ | AC Power cord | ADG1127 | ADG1118 | ADG1127 | |
| ⚠ | Strain relief | ............... | AEC – 882 | ............... | |
| | Rear panel | ANC2008 | ANC2009 | ANC2008 | |
| | Screw (GND) | ............... | ............... | ABA1047 | (Rear panel) |
| NSP | Name plate | AAL2022 | AAL2021 | AAL2023 | |
| | Operating instructions (English, French, German, Italian) | ARE1266 | ............... | ............... | |
| | Operating instructions (Dutch, Swedish, Spanish, Portuguese) | ARE1267 | ............... | ............... | |
| | Operating instructions (English) | ............... | ARB1409 | ............... | |
| | Operating instructions (German, Italian) | ............... | ............... | ARC1399 | |

### VOLUME Assembly

AWZ4654 and AWZ 4653 have the same construction except for the following :

| Mark | Symbol & Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | AWZ4653 | AWZ4654 | |
| | C1513, C1514 | .................. | CCPUSL330J50 | |

### AF Assembly

AWZ4646 and AWZ 4645 have the same construction except for the following :

| Mark | Symbol & Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | AWZ4645 | AWZ4646 | |
| | L1201, L1202 | ATH – 133 | ATH – 059 | |
| | C1219, C1220 | .................. | CKDYF473Z50 | |
| | C1221, C1222, C1312 | .................. | CKCYB103K50 | |
| | C1223, C1224 | .................. | CCPUSL470J50 | |
| | C1311 | .................. | CKDYB103K50 | |
| | C1317 | .................. | CKCYF473Z50 | |
| | C2101, C2102, C2307, C2308, C3303, C3304, C3501, C3502 | .................. | CCSQCH101J50 | |
| | C2201 – C2206, C2301, C2302 | .................. | CCSQCH391J50 | |
| | C2207 – 2210 | .................. | CKCYB391K50 | |
| | C2303, C2304 | .................. | CKSQYB222K50 | |
| | C2305, C2306 | CCSQCH101J50 | .................. | |
| | C2319, C2320, C2503, C2504 | .................. | CKSQYB472K50 | |
| | C2321, C2322 | .................. | CKSQYB102K50 | |
| | R1215, R1216 | RD1/4PMFL100J | RD1/4PMFL101J | |
| | R1217, R1218 | .................. | RD1/4PM100J | |
| | R1313 | .................. | RD1/8PM100J | |
| | R2301, R2302 | RS1/10S221J | RS1/10S102J | |
| | 2P Pin jack | AKB1146 | AKB1100 | |

### TRANS CONNECT Assembly

AWZ4673 and AWZ4672 have the same construction except for the following :

| Mark | Symbol & Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | AWZ4672 | AWZ4673 | |
| | C1160, C1161 | .................. | CQMXA104J100 | |

### SUB TRANS Assembly

AWZ4681, AWZ4679 and AWZ4678 have the same construction except for the following :

| Mark | Symbol & Description | Part No. | | | Remarks |
|---|---|---|---|---|---|
| | | AWZ4678 | AWZ4681 | AWZ4679 | |
| | L1101 | .................. | .................. | ATF – 151 | |
| | C1162 | .................. | .................. | CQMXA104J100 | |
| | CN 1P AC inlet | AKP1121 | .................. | AKP1121 | |

HEAD
AWZ4

Mark

7.2 F
Contra
XD – J1

Mark
NSP
⚠
⚠
NSP

*Note : A*
*R*

ND HEWZIW

s List.
rt. Therefore, when replacing,
l or they may be unavailable.

wing :

| type | Remarks |
|---|---|
| 646<br>654<br>667<br>673<br>679 | |
| 27<br>.... | |
| 08<br>47<br>23 | (Rear panel) |
| ....<br>....<br>....<br>99 | |

| Remarks |
|---|
| |

**AF Assembly**

AWZ4646 and AWZ 4645 have the same construction except for the following :

| Mark | Symbol & Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | AWZ4645 | AWZ4646 | |
| | L1201, L1202 | ATH−133 | ATH−059 | |
| | C1219, C1220 | .................. | CKDYF473Z50 | |
| | C1221, C1222, C1312 | .................. | CKCYB103K50 | |
| | C1223, C1224 | .................. | CCPUSL470J50 | |
| | C1311 | .................. | CKDYB103K50 | |
| | C1317 | .................. | CKCYF473Z50 | |
| | C2101, C2102, C2307, C2308,<br>C3303, C3304, C3501, C3502 | .................. | CCSQCH101J50 | |
| | C2201−C2206, C2301, C2302 | .................. | CCSQCH391J50 | |
| | C2207−2210 | .................. | CKCYB391K50 | |
| | C2303, C2304 | .................. | CKSQYB222K50 | |
| | C2305, C2306 | CCSQCH101J50 | .................. | |
| | C2319, C2320, C2503, C2504 | .................. | CKSQYB472K50 | |
| | C2321, C2322 | .................. | CKSQYB102K50 | |
| | R1215, R1216 | RD1/4PMFL100J | RD1/4PMFL101J | |
| | R1217, R1218 | .................. | RD1/4PM100J | |
| | R1313 | .................. | RD1/8PM100J | |
| | R2301, R2302 | RS1/10S221J | RS1/10S102J | |
| | 2P Pin jack | AKB1146 | AKB1100 | |

**TRANS CONNECT Assembly**

AWZ4673 and AWZ4672 have the same construction except for the following :

| Mark | Symbol & Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | AWZ4672 | AWZ4673 | |
| | C1160, C1161 | .................. | CQMXA104J100 | |

**SUB TRANS Assembly**

AWZ4681, AWZ4679 and AWZ4678 have the same construction except for the following :

| Mark | Symbol & Description | Part No. | | | Remarks |
|---|---|---|---|---|---|
| | | AWZ4678 | AWZ4681 | AWZ4679 | |
| | L1101 | .................. | .................. | ATF−151 | |
| | C1162 | .................. | .................. | CQMXA104J100 | |
| | CN 1P AC inlet | AKP1121 | .................. | AKP1121 | |

**HEADPHONE Assembly**

AWZ4667 and AWZ4666 have the same construction except for the following :

| Mark | Symbol & Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | AWZ4666 | AWZ4667 | |
| | C1243, C1244, C1249, C1250 | .................. | CKPUYB101K50 | |
| | C1245, C1246, C1248 | .................. | CKPUYF473Z16 | |

## 7.2 FOR XD−J110/HB AND HEWZIW

### Contrast of Miscellaneous Parts

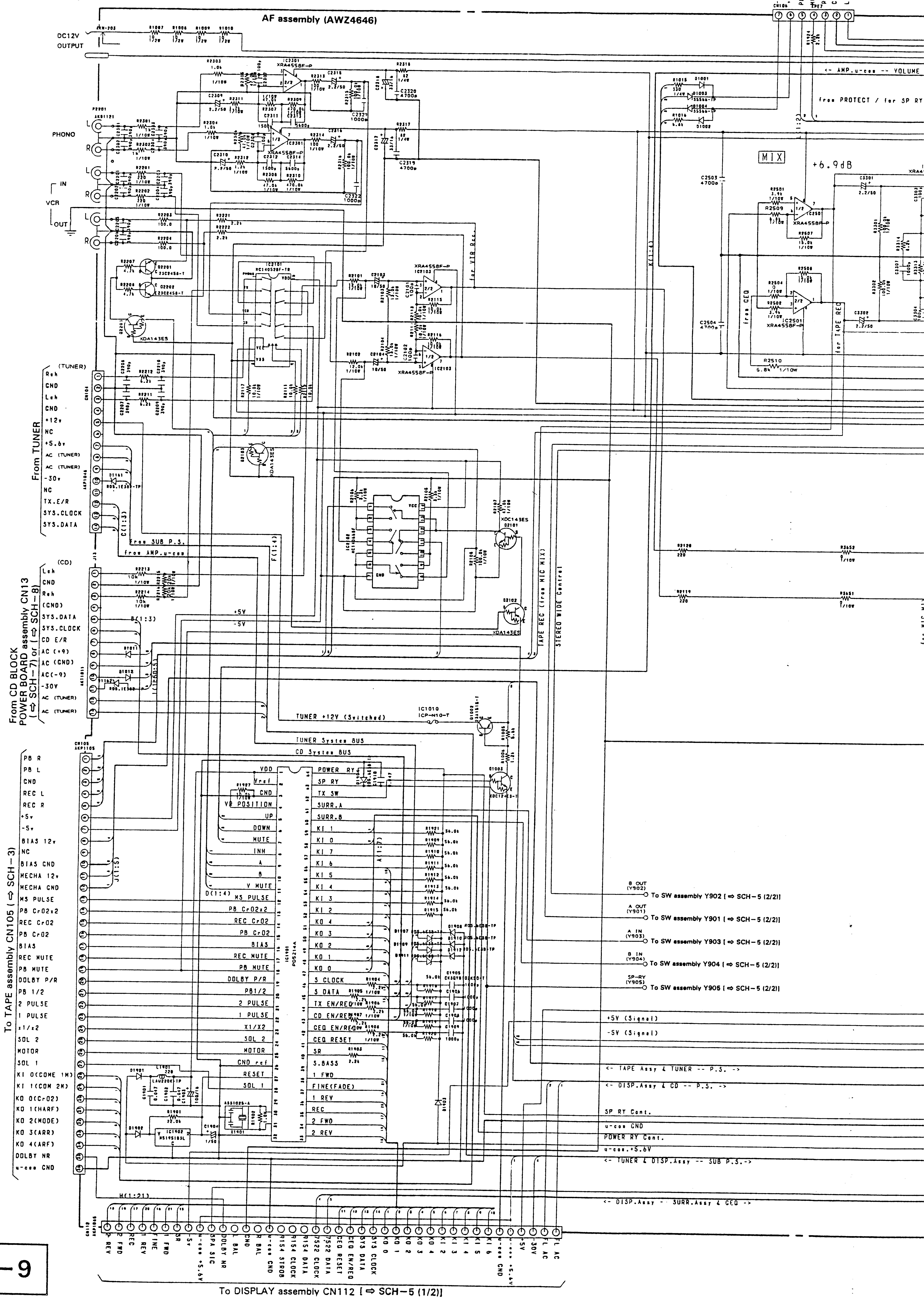
XD−J110/HB, HEWZIW and HE have the same construction except for the following :

| Mark | Symbol & Description | Part No. | | | Remarks |
|---|---|---|---|---|---|
| | | HE type | HB type | HEWZIW type | |
| | AF assembly | AWZ4645 | AWZ4645 | AWZ4646 | |
| | VOLUME assembly | AWZ4653 | AWZ4653 | AWZ4654 | |
| | HEADPHONE assembly | AWZ4666 | AWZ4666 | AWZ4667 | |
| NSP | TRANS CONNECT assembly | AWZ4672 | AWZ4672 | AWZ4673 | |
| | SUB TRANS assembly | AWZ4678 | AWZ4681 | AWZ4679 | |
| ⚠ | AC Power cord | ADG1127 | ADG1118 | ADG1127 | |
| ⚠ | Strain relief | ............... | AEC−882 | ............... | |
| | Rear panel | ANC2008 | ANC2009 | ANC2008 | |
| | Screw (GND) | ............... | ............... | ABA1047 | (Rear panel) |
| NSP | Name plate | AAL2019 | AAL2018 | AAL2020 | |
| | Operating instructions<br>(English, French, German, Italian) | ARE1264 | ............... | ............... | |
| | Operating instructions<br>(Dutch, Swedish, Spanish, Portuguese) | ARE1265 | ............... | ............... | |
| | Operating instructions<br>(English) | ............... | ARB1408 | ............... | |
| | Operating instructions<br>(German, Italian) | ............... | ............... | ARC1398 | |

*Note : All assemblies of XD−J110/HB and HEWZIW are the same as those of XD−J115M/HB and HEWZI.*
*Refer to "7.1 XD−J115M/HB AND HEWZIW".*

## 7.3 SCHEMATIC DIAGRAMS AND PCB PATTRENS
(For XD－J115M/HEWZIW and XD－J110/HEWZIW)

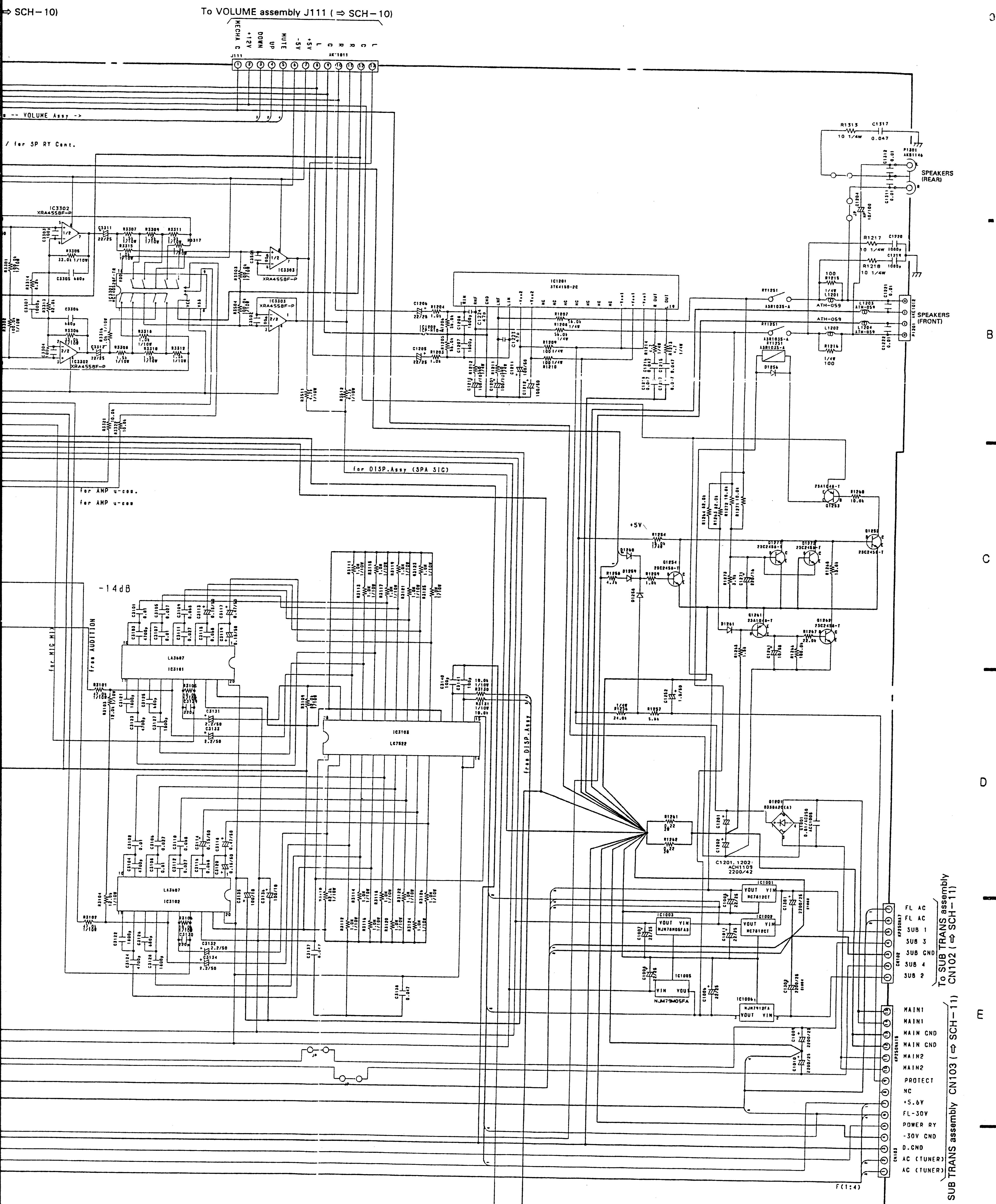
### 7.3.1 AF Assembly



To HEADPHONE assembly CN106 (⇨ SCH－10
AF assembly (AWZ4646)
DC12V OUTPUT
PHONO
L
R
IN
VCR
OUT
XRA4558F-P
IC2101 BC14052BF-TR
XDA143ES
MIX
+6.9dB
for TAPE REC
for CEQ
(TUNER)
From TUNER
Reh
GND
Leh
GND
+12v
NC
+5.6v
AC (TUNER)
AC (TUNER)
-30v
NC
TX.E/R
SYS.CLOCK
SYS.DATA
from SUB P.S.
from AMP.u-com
(CD)
From CD BLOCK POWER BOARD assembly CN13 (⇨ SCH－7) or (⇨ SCH－8)
Leh
GND
Reh
(GND)
SYS.DATA
SYS.CLOCK
CD E/R
AC (+9)
AC (GND)
AC(-9)
-30V
AC (TUNER)
AC (TUNER)
+5V
-5V
TAPE REC (from MIC MIX)
STEREO WIDE Control
TUNER +12V (Switched)
IC1010 ICP-N10-T
TUNER System BUS
CD System BUS
To TAPE assembly CN105 (⇨ SCH－3)
PB R
PB L
GND
REC L
REC R
+5v
-5v
BIAS 12v
NC
BIAS GND
MECHA 12v
MECHA GND
MS PULSE
PB CrO2x2
REC CrO2
PB CrO2
BIAS
REC MUTE
PB MUTE
DOLBY P/R
PB 1/2
2 PULSE
1 PULSE
x1/x2
SOL 2
MOTOR
SOL 1
KI 0(COME 1M)
KI 1(COM 2M)
KO 0(CrO2)
KO 1(HARF)
KO 2(MODE)
KO 3(ARR)
KO 4(ARF)
DOLBY NR
u-com GND
IC1901 PD5214A
VDD
Vref
GND
VR POSITION
UP
DOWN
MUTE
INH
A
B
V MUTE
MS PULSE
PB CrO2x2
REC CrO2
PB CrO2
BIAS
REC MUTE
PB MUTE
DOLBY P/R
PB1/2
2 PULSE
1 PULSE
X1/X2
SOL 2
MOTOR
GND ref
RESET
SOL 1
POWER RY
SP RY
TX SW
SURR.A
SURR.B
KI 1
KI 0
KI 7
KI 6
KI 5
KI 4
KI 3
KI 2
KO 4
KO 3
KO 2
KO 1
KO 0
S CLOCK
S DATA
TX EN/REC
CD EN/REC
CEQ EN/REC
CEQ RESET
SR
S.BASS
1 FWD
FINE(FADE)
1 REV
REC
2 FWD
2 REV
B OUT (Y902) To SW assembly Y902 (⇨ SCH－5 (2/2))
A OUT (Y901) To SW assembly Y901 (⇨ SCH－5 (2/2))
A IN (Y903) To SW assembly Y903 (⇨ SCH－5 (2/2))
B IN (Y904) To SW assembly Y904 (⇨ SCH－5 (2/2))
SP-RY (Y905) To SW assembly Y905 (⇨ SCH－5 (2/2))
+5V (Signal)
-5V (Signal)
<- TAPE Assy & TUNER -- P.S. ->
<- DISP.Assy & CD -- P.S. ->
SP RY Cont.
u-com GND
POWER RY Cont.
u-com.+5.6V
<- TUNER & DISP.Assy -- SUB P.S.->
<- DISP.Assy -- SURR.Assy & CEQ ->
2 REV
2 FWD
REC
1 REV
FINE
1 FWD
SR
-5v
u-com +5.6V
SPA 3IC
DOLBY NR
BAL
GND
R BAL
u-com GND
R154 STROB
R154 CLOCK
R154 DATA
7522 CLOCK
7522 DATA
CEQ RESET
CEQ EN/REC
SYS DATA
SYS CLOCK
KO 0
KO 1
KO 2
KO 3
KO 4
KI 2
KI 3
KI 4
KI 5
KI 6
u-com GND
u-com +5.6V
+5V
-30V
FL AC
FL AC
To DISPLAY assembly CN112 (⇨ SCH－5 (1/2))

AF assembly

**SCH－9**


⇒ SCH−10)
To VOLUME assembly J111 ( ⇒ SCH−10)
MECHA C
+12V
DOWN
UP
MUTE
+5V
-5V
L
C
R
C
L
J111
AK1011
-- VOLUME Assy ->
/ for SP RY Cont.
IC3302
XRA4558F-P
IC3303
XRA4558F-P
IC1201
STK4150-2C
R1313
C1317
10 1/4W
0.047
P1201
AKB1146
SPEAKERS
(REAR)
R1217
C1220
R1218
ATH-059
L1201
L1202
L1203
L1204
RY1251
ASR1035-A
D1256
SPEAKERS
(FRONT)
for DISP.Assy (SPA SIG)
for AMP u-com.
for AMP u-com.
-14dB
for MIC MIX
from AUDITION
LA3607
IC3101
IC3102
IC3103
LC7522
from DISP.Assy
+5V
Q1253
Q1254
Q1271
Q1272
Q1252
Q1261
Q1262
2SA1048-T
2SC2458-T
D1201
D3SBA20(A)
R1261
R1262
C1201, 1202:
ACH1103
2200/42
IC1001
NC7812CT
IC1002
NC7812CT
IC1003
NJM78M05FA3
IC1005
NJM79M05FA
IC1004
NJM7912FA
VOUT VIN
VIN VOUT
FL AC
FL AC
SUB 1
SUB 3
SUB GND
SUB 4
SUB 2
CN102
To SUB TRANS assembly CN102 ( ⇒ SCH−11)
MAIN1
MAIN1
MAIN GND
MAIN GND
MAIN2
MAIN2
PROTECT
NC
+5.6V
FL-30V
POWER RY
-30V GND
D.GND
AC (TUNER)
AC (TUNER)
CN103
To SUB TRANS assembly CN103 ( ⇒ SCH−11)
F(1:4)
A
B
C
D
E
F

**SCH−9**

AF assembly